UNIVERSITY OF KWAZULU-NATAL

THE BOARD OF DIRECTORS AS A GOVERNANCE MECHANISM IN SOUTH AFRICA: AN AGENCY THEORY PERSPECTIVE

By

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DECLARATION

I, Blanche Steyn, declare that

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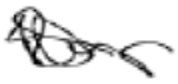
Signature: _  ___ Date: 25 June 2018

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ABSTRACT

The changed legislative landscape of the 2008 Companies Act required a rebalancing of the agency relationship between the board of directors and shareholders given the more onerous statutory oversight and accountability requirements. This study investigates the relationship between the board and firm value of 84 companies on the SRI index between 2012 and 2014, separating the governance role of the board into their corporate control and managerial labour roles using uniquely constructed indexes. Fixed effects with generalised least squares estimations were used to assess the relationship between the corporate control and managerial labour of the board and various proxies for firm value. As board level controls need time to filter through to firm value the study also considered a negatively lagged relationship to firm value. The study expands on the practice of constructing indexes in governance studies by constructing two control indexes to measure quality assurance and company control indicators as well as the control index (CI) representing the corporate control role of the board and the managerial labour index (MLI) representing the managerial labour role of the board. The results show that both the CI and MLI indexes are positively associated to return on assets a performance measure controlled by the board but negatively related to next year's return on assets, suggesting a short-term focus of the board's governance role of a time-horizon problem. However, the CI and MLI indexes are positively associated to enterprise value and next year's enterprise value indicating that the more dispersed shareholders in the market value the governance role the board as an alternative to shareholder monitoring. The association between MLI and Tobin's Q and next year's Tobin's Q is small but negative. The latter can be attributed to the increased statutory responsibility of shareholders regarding board remuneration, and an upward pressure on director's remuneration to compensate board members for their increased liability risk. A more in-depth study on the root cause of the changed association between return on assets and next year's return on assets is an area of future research.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

AD:	Anno Domini
AGM:	Annual General Meeting
AGSA:	Auditor General of South Africa
AltX:	Alternative Exchange (also referred to as ALT^{x})
ANC:	African National Congress
B-BBEE:	Broad-Based Black Economic Empowerment
BCCI:	Bank of Credit and Commerce International
BEE:	Black Economic Empowerment
BLOCK:	Blockholders
Board:	Board of directors
BRICS:	Brazil, Russia, India, China and South Africa
CAE:	Chief Audit Executive
CCI:	Company control index
CEO:	Chief Executive Officer
CFO:	Chief Financial Officer
CI:	Control Indicators
CONSHA:	Controlling shareholders
COSATU:	Congress of South African Trade Unions
CRISA:	Code for Responsible Investing in South Africa
CSR:	Corporate Social Responsibility
CV:	Control variable
DIRSHA:	Directors' shareholding
DTI:	Department of Trade and Industry
EE:	Employment Equity
FGLS:	Feasible General Least Squares
ELDS:	Ethical Leadership Disclosure Score
ESG:	Environmental Social and Governance
EV:	Enterprise value per share
FDI:	Foreign Direct Investment

FTSE:	Financial Times Stock Exchange
GCI:	Global Competitive Index
GDP:	Gross Domestic Product
GEAR:	Growth, Employment and Redistribution
GLS:	Generalised Least Squares
H:	Hypothesis
IIRC:	International Integrated Reporting Council
IND:	Industry
IoDSA:	Institute of Directors Southern Africa
<IR>:	Integrated Reporting
JSE:	JSE Limited previously known as the JSE Securities Exchange and before that as the Johannesburg Stock Exchange
King I:	King Report on Corporate Governance
King II:	King Report on Corporate Governance for South Africa 2002
King III:	King Code of Governance for South Africa 2009, and the King Report on Governance for South Africa
King IV:	Report on Corporate Governance for South Africa 2016
LM:	Lagrange Multiplier
LSE:	London Stock Exchange
MFMA:	Municipal Finance Management Act
MLI:	Managerial Labour Indicators
MVBV:	Market-to-book value
NDP:	National Development Plan
NPC:	Non-profit Companies
NPV:	Net Present Value
OECD:	Organisation for Economic Co-operation and Development
OLS:	Ordinary Least Squares
PFMA:	Public Finance Management Act
PIC:	Public Investment Corporation
PwC:	PricewaterhouseCoopers
Q:	Tobin’s Q
QAS:	Quality Audit Score

R&D:	Research and Development
RDP:	Reconstruction and Development Programme
RO:	Research objective
RoA:	Return on Assets
RoE:	Return on Equity
RSA:	Republic of South Africa
S&E:	Social and Ethics
SACP:	South African Communist Party
SAPA:	South African Press Association
SCM:	Supply Chain Management
SME:	Small and Medium-sized Enterprise
SMME:	Small, Medium and Micro Enterprise
SH:	Sub-hypothesis
SO:	Sub-objective
SOC:	State Owned Company
SOE:	State Owned Entity
SRI:	Socially Responsible Investment
UK:	United Kingdom
UIF:	Unemployment Insurance Fund
USA:	United States of America
VIF:	Variance Inflation Factor
WEF:	World Economic Forum
WJP:	World Justice Project

CHAPTER 1: INTRODUCTION

The curator's report on African Bank Limited found, among other things, that the business of the bank was not conducted with the intent to defraud but negligently, and that board members "allowed themselves to be dominated" by the Chief Executive Officer (CEO).
(Myburgh Report, 2016:476).

1.1 Introduction to the study

The above quotation from the Myburg report highlights the importance of the board of directors (board) as board-level control failure can threaten the existence of a company. The purpose of this study is to address the knowledge gap with respect to the relationship between the board as a governance mechanism and firm value, that has arisen due to the introduction of the 2008 Companies Act (with its more stringent regulatory environment), from an agency theory perspective. The changed legislative environment would require a repositioning of the agency relationship between the board and the shareholders as the legislative changes placed more approval decisions in the hands of shareholders while increasing the bonding of the board. The board is an internal governance mechanism, as it is the expert board that acts as the ultimate controller and direction-giver in a company (Fama, 1980:294). This statement of Fama highlights the controlling and directional role of the board. Thus, the board is the ultimate level of control in a company, where control is seen not merely as the oversight of activities to prevent abuses but also the oversight and direction of the activities and labour of the board towards improved firm value.

This study contributes to the body of knowledge on board-level controls by positioning the controlling role of the board in the corporate control construct with directional control in the managerial labour construct. Bathala and Rao (1995:95) support the importance of board-level controls by noting that the board is "the most important of the organizational controls". The focus on the board as a governance

mechanism is a control-orientated focus that centres on the controlling "tone at the top"[1]. A control focus is important as the board is seen as an alternative monitoring mechanism to shareholders (Bebchuk & Weisbach, 2010:943). Using a control focus positions this study in the assurance realm as governance controls are important for both internal[2] and external auditors. The assessment of the overall control environment (Gray & Manson, 2005:232-233) that stem from the 'tone at the top' influences the nature and extent of assurance services. Assurance services are influenced by the control environment as controls influences control risks, a component of assurance risk.

The main research objective (RO) of this study is to assess the relationship between the board as a governance mechanism (using corporate control and managerial labour) and firm value. This assessment is done within the context of the 2008 Companies Act's legislative environment, using an agency theory perspective or lens. Section 30(2A) exempts companies where the shareholders are also the directors (with no separation between ownership by the shareholders and control by the board) from the requirement of an annual external audit (RSA, 2008a)[3]. The Companies Act also legislates a statutory audit and social and ethics committee for larger companies and public companies. Together the legislative requirements emphasise the need for additional oversight in situations where there is a division of duties between the shareholders and the board.

Two sub-objectives flow from the RO. Sub-objective 1 (SO 1) is to develop an index of control indicators (CI) to measure the level of corporate control of the board. Sub-objective 2 (SO 2) is to develop an index of managerial labour indicators (MLI) to measure the level of managerial labour of the board. Together the level of corporate control and managerial labour controls measured allow the study to assess the relationship between the board as a governance mechanism (CI and MLI) and firm value. It is important to highlight that studying the board as a

[1] Tone at the top refers to the board's responsibility to lead by example by establishing the right tone at the top to highlight the importance of the overall internal control environment.
[2] The focus for internal auditors is on the evaluation of the organisation's operational, risk management, internal control and governance processes (IIASA, [S.a.]).
[3] RSA refers to the Republic of South Africa.

governance mechanism is a small sub-section (Gill, Vijay & Jha, 2009:7; Yarram, 2015:163) within the umbrella of the broader corporate governance field and should not be interpreted as being synonymous with corporate governance.[4] This study uses descriptive research presented by means of a narrative argument to motivate the measures used to assess the relationship between the board as a governance mechanism (CI and MLI) and firm value (Dudovskiy, 2013:36). It is not a causal study.

The study focuses on the boards of South African companies on the Socially Responsible Investment (SRI) index as a population[5]. The SRI index companies are large companies that use transparent disclosure practices to retain their position on the index. This study argues that shareholders are the primary group holding the board responsible and accountable resulting in an agency relationship between the board and the shareholders. Given the large size of the SRI companies, separation between the shareholders and board is more likely, enabling an agency theory lens. The study is based on a near population size sample[6] of 84 boards of companies on the SRI index over a three-year period, resulting in 252 firm-year observations. The use of both cross-sectional and time series data enables this study to use balanced panel data[7] to assess the relationship between the board as a governance mechanism (CI and MLI) and firm value. Details on the research methodology used are described in chapter 6.

[4] Corporate governance has emerged as a discipline associated with various subject areas from management, ethics to accountancy, with no accepted definition (Ntim, 2009:30). This study focuses on the board as a governance mechanism using corporate control and managerial labour to control and direct the activities and labour of the board in relation to firm value. The control focus of the study is aligned with the use of controls in the broader field of assurance or auditing. The broader field of auditing commonly uses narrative descriptions, as is evidenced by the audit report, whereas the accounting finance disciplines tend to prefer using numbers, as is evidenced by quantitative focus in annual financial statements.

[5] The market capitalisation of the companies on the SRI index was 82% of the JSE All Share index in 2012.

[6] The sample is discussed in detail in section 6.6 and the list of SRI companies is summarised in Appendix 2 for ease of reference.

[7] Panel data can be assessed using advance econometric methods that consider the cross-sectional and time series nature of the data and require a balanced panel that includes data from the same boards of companies for all the time periods.

The timing of the study coincides with a more stringent regulatory environment applicable to South African companies and boards at the beginning of the second decade of the 21st century, specifically in the years 2012 to 2014. The stricter requirements of the "new" Companies Act, No. 71 of 2008 limit the control options of the board due to increased bonding (RSA, 2008a). Bonding is the term used when mechanisms such as legislation or contracts are used to limit the actions of a person. The 2008 Companies Act includes sections aimed at improving transparency, accountability and the integrity of companies (sections 23-34 and Chapter 3), and sections on the governance of companies that include the responsibilities of directors (sections 57-78) (RSA, 2008a). The Act therefore bonds the options of the board and specifies directors' liability (RSA, 2008a: section 77).[8] Some sections place greater approval responsibilities on shareholders for example, the approval of directors' remuneration as directors and the appointment of an audit committee (RSA, 2008a: sections 66, 68 & 94).

Prior studies highlighted the value of the board as a governance mechanism by describing it as a primary governance mechanism (Wijethilake, Ekanayake & Perera, 2015:250-251). Adams, Hermalin and Weisbach (2010:58) explain that the complexity of the composition combined with the difficulty of observing the actions of boards are interlinked, which complicates a study of boards. The latter explain why, despite the extant literature on CEOs or corporate governance, there are few in-depth studies on the board, especially in South Africa.[9] Prior South African research on corporate governance is summarised in Appendix 10 as studies related to corporate governance can include subsections on board-related controls.

This thesis proposes that the more regulated environment in which the board as a governance mechanism controls the activities of a company results in increased monitoring and bonding to reduce goal divergence and maximise firm value. Board-

[8] It is not the goal of this study to assess the effectiveness of the new Companies Act even though econometric methods are often used to assess the impact of policies over time. The focus of this study is on the relationship between the board as a governance mechanism and firm value, given the more regulated environment of the 2008 Companies Act. The period of the study is discussed in more detail in section 6.6.1.

[9] More information on prior board-related South African studies is summarised in chapter 2.

level controls are used to align the interests of the board with those of the shareholders to whom the board reports annually via the annual integrated report and at the annual general meeting (AGM). The use of controls for goal alignment is in line with the internal control mechanisms described by Walsh and Seward (1990:423). Board-level controls include separation of duties, monitoring or oversight and alignment of their remuneration with their board roles. The board as specialist managers can be broken down into two broad specialisations, namely expert monitoring (Wang, Xie & Zhu, 2015:930) by non-executive directors, including independent directors, and specialist management by executive directors (Steyn & Stainbank, 2013:319). The two levels of specialisation create separation of duties with monitoring or oversight which is in line with the division of labour described by Fama (1980:289-292). The levels of specialisation are specifically considered in the development of the CI and MLI indexes.

To recap, the main research objective or RO of this study is:

RO - to assess the relationship between the board as a governance mechanism (CI and MLI) and firm value.

The objectives of the study are assessed within the context of the legislative environment of the 2008 Companies Act, using an agency theory lens. The main RO led to the following two sub-objectives:

SO 1 – to develop a CI index to measure the level of corporate control of the board.

SO 2 – to develop a MLI index to measure the level of managerial labour of the board.

To achieve SO 1 the study aims to develop a CI index to measure the level of the board's corporate control (in line with the seminal work on index building by Gompers, Ishii and Metrick (2001)). To achieve SO 2 the study aims to develop a MLI index to measure the level of managerial labour of the board (also in line with Gompers *et al.* (2001)). In turn, the sub-objectives suggested two sub-hypotheses

(SH) that would support the main hypothesis in achieving the study's main objective and purpose.

SH 1 – There is a positive relationship between the CI index that measures the level of the board's corporate control and firm value.

SH 2 – There is a positive relationship between the MLI index that measures the level of the board's managerial labour and firm value.

As the board as a governance mechanism is represented by corporate control and managerial labour controls, the sub-hypotheses lead to the main objective, namely to assess the relationship between the board as a governance mechanism (CI and MLI) and firm value. The main objective can be expressed as a hypothesis:

H 1 – There is a positive relationship between the board as a governance mechanism (CI and MLI) and firm value.

Prior South African corporate governance studies have shown a positive link between corporate governance mechanisms and firm value (Abdo & Fisher, 2007; Ntim, 2009; Kolobe, 2010). However, some studies produced mixed results, depending on the proxy used for firm value (Mans-Kemp, 2014; Ashwin, 2015; Tshipa, 2017). Because the board as a governance mechanism is merely a subsection of the broader corporate governance field, the board was mostly treated as a subsection in the above studies. Tshipa (2017:205) is the exception as his corporate governance study used board size, independence, committees, diversity, activity and CEO duality as the six independent variables. Given the mixed prior South African findings on corporate governance coupled with the stricter legislative environment, a more in-depth study on the board's relationship with firm value is warranted. The literature on in-depth South African studies on boards as a governance mechanism is sparse; board focused studies generally use limited board-related variables (refer to the summary in section 2.3.2.3 on prior South

African board-related research), which supports the need for more in-depth research, especially given the changed legislative environment.

Through the enhanced governance requirements that ensue from King III (IoDSA, 2009a; IoDSA, 2009b) and the 2008 Companies Act (RSA, 2008a), the regulatory environment as an external governance mechanism influences the control options of the board as an internal governance mechanism. The legislative and regulatory changes have resulted in a knowledge gap regarding the relationship between the control mechanisms used by the board and firm value. This relationship has not been evaluated in the context of the more stringent regulatory developmental environment while taking the corporate control and managerial labour constructs into account. Thus, the research problem can be worded as the following question:

> **What is the relation between the controlling (CI) and directing (MLI) role of the board as a governance mechanism and firm value in a more regulated developmental environment?**

The motivation for this study, including the knowledge gap, is discussed in more detail in section 1.3, while the expected contribution is discussed in more detail in section 1.4. The next section briefly describes the background to the research.

1.2 Background to the research

In the early 1990s, political reform freed the South African economy from isolation and ushered in an era of rapid change, with trade liberalisation and international investors opening up opportunities and challenges (Malherbe & Segal, 2001:3). In this environment of rapid political reform coupled with a newly opened competitive global market, the need to establish more formal corporate governance practices in South Africa was identified as a means of enhancing competitiveness. Afshan, Chhetri and Pradhan (2011:82) note that although access to a global market

increases access to resources, it also increases competition as multinationals enter the local market. To regulate competitiveness, South Africa has been developing corporate governance guidelines since 1992. These guidelines were initially aimed at the private sector and highlighted the "importance of a properly functioning board as a key ingredient" (Armstrong, Segal & Davis, 2005:9).

It is possible that companies with unmanaged agency problems can benefit from following good governance guidance as it can help to reduce slacking and wasteful behaviour. However, as the agency problem is addressed over time the initial benefits could decrease as goal alignment is achieved. In the latter case additional regulatory controls could be costly. Zhang (2007:110) found statistically significant negative abnormal returns linked to Sarbanes-Oxley (SOX) events. Thus, increased legislative bonding could be costly in situations where goal alignment has already been established.

Improved governance is a valid strategy as new governance practices can be used to help companies improve their control to make them more competitive in a global environment (Aguilera & Cuervo-Cazurra, 2004:417). The rapidly changing environment of the 1990s resulted in a number of improved governance practices that were mainly supported by governance guidelines and improved legislation (a more detailed discussion is included in chapter 2). Malherbe and Segal (2001:4) identify the market through international institutional investors and the practice of using share-based remuneration for executives in South Africa as the most important forces behind the initial push towards improved governance practices. The governance guidelines included specific guidelines affecting boards, which are the focus of this study.

As the directors are the agents of the shareholders who need to approve their appointment and directors' remuneration (as per sections 66 and 68 of the 2008 Companies Act (RSA, 2008a)), this study uses an agency theory perspective to assess the relationship between the board as a governance mechanism, and firm value. The agency problem centres on how the board of a company can minimise

the risk that stems from goal divergence (Dalton, Hitt, Certo & Dalton, 2007:2). Goal divergence could, for example, include instances where executive directors, as specialist managers, use their position for personal advantage and not to maximise firm value. The maximisation of self-interest is not unusual as the consideration of basic utility maximisation economic tools remains commonplace (Wooldridge, 2014:3). In line with the utility principle accounting systems including control systems consider the cost versus benefit balance of the system to ensure the value of the information derived from the system exceed the cost. However, legislation bond firms to comply to the legislative requirements irrespective of the cost benefit balance.

In the opening quotation to this chapter from the Myburgh Report, inaction by board members was highlighted as negligent. The inaction or slacking of the board may be linked to moral hazards that are hidden through the use of information asymmetry, both goal divergence or agency problems.[10] The Myburgh Report (2016:105) identified an additional claim of R2,465 billion against the reported profits in the periods 2008 to 2012, highlighting the extent of prior skewed disclosure (information asymmetry). The moral hazard and information asymmetry problems in African Bank are typical causes of goal divergence that are associated with agency theory problems[11] (McColgan, 2001:11). Dowd (2009:142) notes, in a study on moral hazard and the global financial crisis, that moral hazard is a pervasive feature that influences the development of the types of contracts and the organisation of the markets used to manage moral hazard or agency problems. Bolton (2013:i77) explains the continued challenge in achieving goal alignment is that the agency theory does not result in simple quantitative methodological applications that practitioners can use for goal alignment. This challenge is compounded by the problems involved in using contracts to manage or control board activity and labour that are difficult to observe (Adams *et al.*, 2010:58) with the object of reducing moral hazard.

[10] Section 3.3.4 discusses goal divergence problems in more detail.
[11] The goal divergence problems support the use of agency theory in this study.

Using governance mechanisms to manage the agency problem is considered to be an important survival factor for companies (Fama & Jensen, 1983a:327). Afshan *et al.* (2011:82) explain that good governance is a factor in business survival that can result in improved competitiveness, which in turn increases access to funding. However, the extensive literature on the influence of governance and control mechanisms on firm value has yielded mixed findings globally as well as locally (Ma, 2009:2031; Pugliese, Bezemer, Zattoni, Huse, Van den Bosch & Volberda, 2009:292; Ashwin, 2015; Muchemwa, Padia & Callaghan, 2016). Some prior studies have found positive relationships (Beiner, Drobetz, Schmid & Zimmermann, 2006; Brown & Caylor, 2006; De Andres & Vallelado, 2008; Ntim, 2009; Ramdani & Witteloostuijn, 2010; Ntim, Opong & Danbolt, 2012; Meyer & De Wet, 2013; Van Essen, Engelen & Carney, 2013), some negative relationships (Agrawal & Knoeber, 1996; Yermack, 1996; Kim & Yoon, 2007; Yammeesri & Herath, 2010). However, some studies found no relationships between various board-related governance and control mechanisms and firm value (Dalton, Daily, Ellstrand & Johnson, 1998; Dalton *et al.*, 2007; Brick & Chidambaran, 2010; Wintoki, Linck & Netter, 2012).

The South African context of this study considers the contrast between the First World elements in the economy with its robust state-of-the-art legal system (Matola, 2014), and sophisticated market (in the JSE) (Malherbe & Segal, 2001:25; Armstrong *et al.*, 2005:10), and the Third World challenges such as the need to uplift disadvantaged communities and transform. South Africa is grappling with inequality, with child-headed households (Nkomo, 2008), with basic needs like food security (Altman, Hart & Jacobs, 2009), and a consistent and alarming corruption index score of between 42 and 44[12] for the 2012 to 2014 period (Transparency International, [S.a.]). Labour issues are also a challenge with unemployment at around a quarter of the population (Statistics South Africa, 2016a:iv). South Africa can be viewed as a "*developmental state* grappling with profound economic, political and social transitions rooted in sociohistorical factors"

[12] A corruption score of 43 indicates perceived endemic corruption in a country's public sector (Transparency International, [S.a.]).

(Nkomo, 2015:253). However, the profit motive driving companies is still critical, especially as companies are seen as a main economic driver (Mongalo, 2003), guided by the strong First World legal system and market to help fund the development of the Third World elements.

This study argues that the enhanced requirements of the 2008 Companies Act influence the rigour with which the board approach their duties, especially since the shareholders appoint the board members individually and approve their remuneration as directors (RSA, 2008a: sections 66 & 68). The rigour used by the board is important as the *Horwath 2002 corporate governance report*[13] highlights the risk that directors could pay more attention to personal gain than to their fiduciary duty, given the spectrum of "maximum possible" versus "minimum excusable governance practices" (Psaros & Seamer, 2002:5). To encourage rigour the 2008 Companies Act (RSA, 2008a) is more prescriptive regarding directors' conduct (section 76) and directors liability (section 77), thereby increasing the risk of legal action against board members. Carciumaru (2010:251) "found that director liability has in fact increased [in South Africa] because of the courts and society being more willing to hold directors accountable for their actions or inactions". The new legislation limits some of the board options on control mechanisms, for example, by requiring shareholders to specifically appoint directors who comply with specific independence requirements to the audit committee and changing the audit committee to a statutory committee to oversee assurance (RSA, 2008a: section 94).

Although the corporate governance body of knowledge suggests that good governance by the board should be positively related to firm value, the changed legislative and regulatory environment means that the new reality needs to be evaluated as the past cannot always be used to predict the future. Ntim, Opong and Danbolt (2015:195) note that the role of the board in South Africa may differ

[13] Associate Professor Jim Psaros and Michael Seamer from the University of Newcastle Business School developed a corporate governance star rating for the top 250 Australian listed companies and compiled the results in the *Horwath 2002 corporate governance report*, in acknowledgement of their sponsors.

because of the different legal and governance structures. This is one of the factors that gave rise to this study.

1.3 Motivation for this study and the knowledge gap

The main motivation for the study is to address the knowledge gap that stems from the changed legislative environment. Assessing the relationship between the board as a governance mechanism and firm value extends the body of knowledge on board-level controls by using the corporate control and managerial labour construct within the context of a smaller, more regulated developing economy. The contribution is discussed in more detail in section 1.4 while the motivation is discussed below.

Firstly, assessing the board's controls from an agency theory perspective could improve insight into the relationship between the board's control and direction of the activities and labour of the board and firm value. Prior studies on the relationship between the board and firm value resulted in mixed findings, which indicates that there is still a need for a deeper understanding of the relationship between the board as a governance mechanism and firm value, given the different proxies for firm value (Udayasankar & Das, 2007:262; Gill *et al.*, 2009:8; Tshipa, 2017:198). The need for additional research is further supported by a South African study by Meyer and De Wet (2013), who reported mixed findings for three board variables and three proxies for firm value in the period 2010 to 2012. In a more recent local study, Muchemwa *et al.* (2016:509) recommended further research on specific board-related mechanisms such as board structure, director remuneration, directorships held, age and gender diversity. A unique characteristic of South African corporate governance is its pre-emptive nature in pursuit of enhanced competitiveness. The changed, more stringent regulatory environment which followed the introduction of the 2008 Companies Act, and the governance guidelines in King III, increased the bonding of the board as a governance mechanism. Increased bonding results in a knowledge gap regarding the relationship between the board as a governance mechanism and firm value in a more

regulated environment as the response of boards to the increased bonding has not been researched nor is there clarity on the relationship between the board as a governance mechanism and firm value given the mixed prior findings.

Secondly, the need for more extensive governance research, which includes research on the board, in developing countries, including African countries, is supported by other authors (Jackling & Johl, 2009:492; Ntim, 2009:376; Afshan *et al.*, 2011:89; Kumar & Singh, 2013:96). More in-depth research has also been recommended by recent South African studies on board characteristics (Muniandy & Hillier, 2015; Muchemwa *et al.*, 2016). Although the study of Tshipa (2017:1 and 205) was more extensive with 1170 firm year observations (90 companies between 2002 and 2014), it only assessed the relationship of six board-related variables to firm value over the period. A more in-depth assessment could contribute to the broader body of knowledge on the use of board-level controls.

Thirdly, prior studies over multiple periods show an increased tendency towards improved adaptation to best practices over time (Ackers, 2009:14; Ntim, 2009:343). However, no local studies have considered what happens when best practices become commonplace. A practice of moving towards what are regarded as best practices can result in nearly all companies using the same control mechanisms to address goal divergence. As soon as a control practice becomes commonplace it becomes a constant factor and this changes the cost/benefit balance of the control. Governance and control mechanisms that were found to be positively related to firm value in the past might no longer have a positive relationship once the practice becomes commonplace and the effect evens out. Following a line similar to the shape of a logarithmic growth line that plateau at the end. In addition, the need to consider within-firm differences over time, using panel data and panel analysis methods, has been highlighted by Adams *et al.* (2010:67).

Lastly, the continuously evolving nature of business and corporate governance guidelines requires ongoing research. In South Africa, there is an increased focus on the accountability and responsibility of the board, which is

encapsulated in the enhanced accountability requirements included in Chapter 3[14] of the 2008 Companies Act (RSA, 2008a) and the more stringent governance recommendations in the King III governance code and report (IoDSA, 2009a; IoDSA, 2009b). The continual changes in governance regulation led to the issue of King IV in November 2016 (IoDSA, 2016). Continual changes in legislative and governance requirements have a direct impact on the board as the board is the responsible and accountable body in a company who need to ensure compliance with the legislative and regulatory environment.

The next section highlights the contribution of this study to the body of knowledge on boards as a governance mechanism and the control mechanism used in the corporate control and managerial labour constructs in a more regulated developmental context.

1.4 Contribution of this study

This study contributes to the body of literature on the board as a governance mechanism in the following ways. Firstly, given the complex role of the board, this study contributes to the body of knowledge by building indexes to assess the board's use of controls in the corporate control and managerial labour constructs. Together the MLI and CI (defined in chapters 4 and 5) indexes represent a set of comprehensive board-level indicators that differentiate this study from prior studies which focused on limited board-level variables (Meyer & De Wet, 2013; Muchemwa *et al.*, 2016; Tshipa, 2017). The CI and MLI indexes measure board-level control in the corporate control and managerial labour constructs to enable an assessment of the relationship between the board as a governance mechanism and firm value. The only more comprehensive study that includes board-related variables is the corporate governance study by Tshipa (2017), who performed an extensive study based on 90 companies between 2002 and 2014 using six board-related indicators as variables. This study used narrower indicator definitions to

[14] "Chapter 3" refers to Chapter 3 of the Companies Act.

develop indexes that represent the in-depth use of board-level controls as boards are a difficult phenomenon to study. The indexes comprehensively represent the controlling and directional role of the board by consolidating 25 indicators in the CI index and 23 in the MLI index to make it possible to study board-level controls in greater depth.

Secondly this study contributes to the body of knowledge by applying a control focus that uses the two constructs to differentiate between the controlling and directional role of the board as a governance mechanism. The focus on control in this study differs from normal operational internal controls as the control mechanisms available to the board focus on directing and controlling the activities and labour of the board on a more strategic level. In contrast to normal internal controls, which generally need to operate in an effective and efficient manner, the board-level controls can be slow to respond and filter through to firm value. Given that the board only meets a few times a year, inefficiencies in board-level controls are not unexpected. A delayed response of up to two years was linked to the removal of a CEO after significant reported losses, which demonstrates that high-level controls seldom respond in the absence of a crisis (Jensen, 1994a:17), highlighting the inefficiencies. The same principle seems to apply to South Africa as African Bank's board only pressured its CEO to resign after suffering significant losses for the second year in a row (Ziady, 2015). This study specifically considers the inefficient nature of board-level control by assessing the relationship between the board as a governance mechanism to a negatively lagged firm value.

Thirdly, South African governance follows the African world view of ubuntu[15] (Ifejika, 2006), which emphasises ethical leadership. This study extends the existing literature by including an indicator to incorporate ethical leadership into the MLI index. To measure ethical leadership a qualitative content analysis was performed on the integrated reports of the relevant companies with the aid of Leximancer.[16] This enabled the study to incorporate ethical leadership into the MLI

[15] Ubuntu comes from a Zulu phrase, "Umuntu ngumuntu ngabantu", which means "a person is a person through other people" (Ifejika, 2006).
[16] Leximancer is an automated content analysis tool.

index to acknowledge the hybrid governance model used in South Africa. The value of ethical leadership and improved disclosure was highlighted by Cho, Lee and Pfeiffer (2013:82) who found that disclosing negative information on corporate social responsibility (CSR) reduces the bid-ask price spread of shares more than positive disclosure. The importance of ethical leadership is supported by the Companies Act that requires the board to appoint a Social and Ethics (S&E) statutory board committee to help govern ethics, transformation and social responsibility in the company. This study includes indicators linked to the S&E committee in the CI and MLI indexes.

In the fourth place, this study extends the index building methods used to consolidate independent variables to control variables. The first consolidated control variables are the quality audit score (QAS). The QAS consolidates the bonding impact of the requirements of the Companies Act relating to external audit and the audit committee into a single score. The development of a QAS differentiates this study as it consolidates the complex relationship linked to assurance into an index and positions the audit or assurance relationship outside of the control of the board. The second consolidated control variable focuses on company-level controls or company control indicators (CCI). The CCI considers the risk, growth, prior performance, company size, board size and board independence when constructing the index. This study differentiates itself by positioning board size and independence outside the direct control of the board as part of the CCI index. Board size and independence are dependent on the shareholders who appoint the board. The development of the CCI differentiates this study as it consolidates the complexity of past control or direction decisions (relating to risk and growth, for example) that bond the current options of the board with the board size and composition into an index that falls outside the direct control of the board in the current year.

In the fifth place, this study is based on the boards of companies on the SRI index and applies an agency theory perspective on SRI companies, where the focus is on social responsibility coupled with transparent reporting. An agency theory

perspective in a study on the SRI index has received relatively little attention in South Africa as prior studies using the SRI index focused on social or sustainable objectives (Sonnenberg & Hamann, 2006; Herringer, Firer & Viviers, 2009; Maubane, Prinsloo & Van Rooyen, 2014). Although the selection of companies in prior corporate governance studies that used samples of 90 or more companies (Ntim, 2009; Mans-Kemp, 2014; Tshipa, 2017) would have overlapped with companies on the SRI index, these studies did not control for the SRI index in the analysis or discussion of their findings.

In the sixth place, the period of this study focuses on the business environment after the enactment of the Companies Act 71 of 2008 (RSA, 2008a). The period of the study started in 2012 and ended in 2014 as the composition of the SRI index changed in 2015. Although a number of recent South African studies deal with the link between the broader field of corporate governance and firm value (Ntim, 2009; Opperman, 2009; Semosa, 2012; Mans-Kemp, 2014; Ashwin, 2015), or follow a more focused approach by considering board characteristics and firm performance (Muniandy & Hillier, 2015; Muchemwa *et al*., 2016), these studies do not consider the impact of the 2008 Companies Act on the control options of the board as a governance mechanism. The stronger legal requirements could encourage board members to limit their potential liability by using controls where the costs exceed the benefits or result in upwards pressure on directors' remuneration. Thus, this study contributes to the body of knowledge by addressing the knowledge gap on the relationship between the board, as a governance mechanism, and firm value, in a more regulated environment and a developing economy.

In the seventh place, the focus of this study on the SRI index included companies from all industries in contrast to recent corporate governance studies that focused on specific industries (Ntim, 2009; Mans-Kemp, 2014; Tshipa, 2017). This study used a unique industry classification based broadly on the spectrum of customers to identify two industry groupings. The first group is the basic or primary sector with a limited number of customers and the second group is the consumer-centred sector with a wide spectrum of customers.

Given the contribution made by this study in the above areas, coupled with the mixed prior research findings highlighted above, there is a need for further research on the board as a governance mechanism, especially in a more regulated business environment in South Africa, a developing country. The next section briefly describes the background to governance in South Africa.

1.5 Background to governance in South Africa

The call for enhanced governance and control mechanisms in the early 1990s was not only a localised requirement; international investors who were considering investing in the new South African democracy were demanding good corporate governance practices (Malherbe & Segal, 2001:4; Kakabadse & Korac-Kakabadse, 2002:306). These international investors were sufficiently powerful to influence the markets, causing share prices in companies with corporate governance practices that did not follow international norms to fall sharply (Malherbe & Segal, 2001:6).

Companies are important as they are the predominant structure in which the productive assets of a country, and in this study South Africa, are deployed. The extent of their importance is highlighted by Armstrong *et al.* (2005:10), who found that "over three-quarters of South Africa's productive capacity rests in the hands of private business". As governance practices influence how efficiently and effectively the companies' assets are used, guidance on good governance practices has become critical for South Africa. Governance guidance has focused on helping the country's businesses adapt to a demanding, competitive business environment after the country emerged from a period of isolation (Malherbe & Segal, 2001:10). Improved governance practices are important in establishing competitiveness and growing companies; Vaughn and Ryan (2006:504) explain that the practice of using corporate governance in attracting foreign investment by developing countries is an essential component in helping to establish economic stability and growth. The "taken-for-granted" governance expectations of foreign investors delivered external forces that furthered the establishment of good corporate governance

practices in South Africa (Malherbe & Segal, 2001:4). In addition, the South African view that corporate governance can help to establish improved governance practices (Godfrey, 2002:25 & 27), led by internal forces (including share-based remuneration), has helped to push for the establishment of good corporate governance practices.

Corporate governance guidelines became more formalised with the first King report, the *King Report on Corporate Governance*[17] (King I). King I was issued by the Institute of Directors in Southern Africa (IoDSA) in 1994 to address the need for improved guidance on corporate governance while moving towards a more competitive global economic environment (IoDSA, 1994). Corporate governance guidelines can be useful in establishing a basic level of governance. This is supported by Haspeslagh (2010:376) who considers corporate codes a suitable method of helping to guide "unsophisticated companies or countries to the basic level of governance". The use of governance guidelines to establish a "new basic level" can mean that the positive impact of improved governance measures can be short-lived and will stop once the new base-line or plateau is reached, requiring continuous improvement in governance practices to obtain further benefits. In addition, the new "basic level" can be used as a control barrier to maintain governance control at the new expected level to minimise goal divergence caused by moral hazard. Control options highlight the choices of boards regarding a company's direction and control, which undoubtedly help to attract or repel investors.

In 2002 the McKinsey *Global Investor Opinion Survey* found that institutional investors view corporate governance indicators as being on a par with financial indicators and are prepared to pay a premium for companies with high governance standards (McKinsey & Company, 2002). The McKinsey study contributed significantly towards encouraging the adoption of best governance

[17] The titles of reports are highlighted in italics in the text to distinguish the titles from the rest of the text, King I is the commonly used short reference to the *King Report on Corporate Governance*, issued in 1994 by IoDSA.

practices in South Africa as evidenced by the detailed references to it in King II[18] (IoDSA, 2002:13). The initial implementation of governance guidelines in South Africa occurred in a flourishing economic environment as South Africa experienced an annualised growth rate of 3.28% in real gross domestic product (GDP) between 1994 and 2012, with the years 2005-7 showing the highest growth rates, exceeding an annualised real GDP of 5%[19] (Bhorat, Hirsch, Kanbus & Ncube, 2013a:3). Statistics South Africa (2016b) notes that "the global economic crisis of 2008" resulted in a "a negative growth rate -1,5%" in 2009, followed by "positive growth rates during 2010–2015". However, the growth rates "were still well below the achievements of 2005–2007" (Statistics South Africa, 2016b).

It is possible that poor governance and control practices can have a negative impact as they can result in the inefficient use or wasting of resources. Poor governance in the public sector, as evidenced by the findings of the Auditor-General of South Africa (AGSA) for the 2013/2014 period, indicate that only 51% of national and provincial departments received unqualified audit opinions, 72% showed non-compliance with key legislation, there was R2.6 billion in unauthorised expenditure, R62.7 billion in irregular expenditure, and fruitless and wasteful expenditure of just over R1,1 billion (AGSA, 2013/2014). To help encourage further improved governance practices, King IV[20] used industry-specific guidelines to assist different industries like the public sector to better apply governance guidelines (IoDSA, 2016:74). The impact of King IV's guidelines falls outside the scope of this study as the guidelines came into effect after the timeline applicable to the study. King IV is nevertheless discussed in chapter 2 as part of the South African governance environment.

In 1994 the guidance provided by King I was opportune as it helped to guide South African companies to evolve from operating in an isolated market to

[18] King II is the *King Report on Corporate Governance for South Africa*, issued in 2002 by IoDSA to stay abreast with global practices.
[19] No study could be found on whether there was any real relationship between the implementation of improved governance practices and economic growth, making this an area for future research.
[20] King IV is the *Report on Corporate Governance for South Africa* 2016 issued 1 November 2016 by the IoDSA.

competing in the global marketplace. In South Africa, the guidance of King I was updated by King II in 2002, King III in 2009[21] and King IV in 2016 to ensure that the country stayed abreast of global best practices in corporate governance (IoDSA, 1994; IoDSA, 2002; IoDSA, 2009a; IoDSA, 2009b; IoDSA, 2016). The foundation of all the King reports is built on ethical and effective leadership, with King IV consolidating the 75 principles in King III into 17 and changing from "apply or explain" to "apply and explain" (IoDSA, 2016:6-7).

As the guidance of the various King reports was context-specific it helped to develop an African model of corporate governance that is based on stakeholder-centric African values (also referred to as ubuntu), within a strong legal environment (Andreasson, 2011b:647). Adding an ethical focus to governance is not unusual as Arjoon (2006:68) notes that effective governance needs to "adhere to ethical principles, not merely comply with rules". The evolution of governance guidelines to stay abreast of global best practices in governance was critical, as improved control and governance mechanisms were and still are available to aid in encouraging continuous economic reform (Chakrabarti, Megginson & Yadav, 2008:63).

In addition to the guidance provided on corporate governance, various legislative changes were enacted to encourage good governance principles. Laws that focused on the public sector include the Public Finance Management Act (PFMA) (RSA, 1999) and the Municipal Finance Management Act (MFMA) (RSA, 2003). These laws helped to regulate effective and efficient management in the public sector in line with the constitution (RSA, 1996). Legislation that encourages transparent and competitive behaviour in the private sector includes the Competition Act (RSA, 1998a), the Employment Equity Act (RSA, 1998b), the Promotion of Access to Information Act (RSA, 2000), the Security Services Act prohibiting insider trading (RSA, 2004), the Auditing Profession Act (RSA, 2005a), the Corporate Laws Amendment Act (RSA, 2006), the Companies Act (RSA,

[21] King III consists of two publications, the *King Code of Governance for South Africa 2009*, and the *King Report on Governance for South Africa* issued in 2009 by IoDSA.

2008a) and the Consumer Protection Act (RSA, 2008b). The legislative change important for this study is the 2008 Companies Act as it introduced stricter requirements that bond the board directly as well as via their fiduciary duties to the company. This stricter legal environment is likely to influence the selection of controls used by the board in the control and direction of the activities and labour of the board. The increased liability risk of the board could lead to the adoption of more conservative practices to reduce their increased liability risk in a manner that could constrain future growth. Alternatively, it could lead to upward pressure on board remuneration to compensate the board members for the increased personal risk they are exposed to.

Although the controls used by the board as a governance mechanism are a small subsection of the broader corporate governance field, considering what corporate governance is helps to establish the context. Godfrey (2002:26) describes corporate governance as ensuring the "efficient, responsible, transparent and honest governance of economic entities". This highlights the ethical nature of corporate governance. King I used a more basic definition and described corporate governance as "the system by which companies are directed and controlled" in line with the *Report of the Committee on the Financial Aspects of Corporate Governance* (Cadbury report) (Cadbury, 1992:13; IoDSA, 1994:1). Such direction and control use various control mechanisms including other governance mechanisms such as institutional shareholders. The direction and control principles referred to in this study are a narrower application of the broader corporate governance direction and control as defined in King I and Cadbury as this study only focus on board-level controls. The definition of corporate governance in King IV highlights ethical leadership, performance and control for legitimacy and sees corporate governance as "the exercise of ethical and effective leadership by the governing body towards the achievement of the following governance outcomes:

- Ethical culture
- Good performance
- Effective control
- Legitimacy" (IoDSA, 2016:20)

1.6 Governance mechanisms

There are two main groups of governance mechanisms: external and internal. External mechanisms focus on the market and legislation, while internal mechanisms focus on the board of directors and blockholders or institutional shareholders (Walsh & Seward, 1990:423 & 434; Cremers & Nair, 2005:2859). In South Africa, the external environment includes protective legislation, for example encouragement of competition (RSA, 1998a), employment equity (RSA, 1998b), access to information (RSA, 2000), legislation for companies (RSA, 2008a), and consumer protection (RSA, 2008b), with the JSE as the market for listed companies (JSE, 2010a).

The changes in the 2008 Companies Act have significantly enhanced the legislative bonding of the board of public companies as shareholders have to appoint directors individually, approve their remuneration, approve the issuing of shares and loans to directors, and appoint independent directors to a statutory audit committee (RSA, 2008a: sections 41, 45, 66, 68 & 94). The Act contains enhanced requirements regarding a director's conduct and liability as well a requirement for public companies to establish a statutory social and ethics (S&E) board committee (RSA, 2008a: sections 72, 73, 76 and 77).

A more detailed discussion on the internal governance mechanisms is included in chapters 3, 4 and 5. Fama and Jensen (1983b:303) explain that the external and internal governance mechanisms are used to control agency problems caused by the "separation of decision and risk-bearing functions". The separation of duties between "decision management (initiation and implementation of decisions) and decision control (ratification and monitoring of decisions)" also applies to South Africa, as noted by Cohen and Uliana (1990:8-9). This links external and internal governance mechanisms to agency theory and the use of control mechanisms to reduce agency problems. More information on the control

mechanisms in corporate control and managerial labour is included in the following sections.

1.6.1 Control mechanisms

To evaluate control mechanism used by the board, this study considers board-level controls in the corporate control and managerial labour construct as well as controls outside the direct control of the board, referred to as control variables. Control variables are control mechanisms outside the immediate influence of the board that can influence firm value. Control variables stem from the broader corporate governance environment, including the divergence of shareholders, institutional shareholders including blockholders, industry, firm size, board size, and external assurance. The control variables used by this study are summarised in Appendix 4 and are defined and discussed in more detail in chapter 4.

Anderson, Melanson and Maly (2007:780) note that the ongoing debate on governance efficacy follows two streams related to the board, one focusing on improving incentive schemes to direct labour, and the other on improving the board's monitoring ability (control) through increased independence. These two streams are similar to the corporate control and managerial labour constructs used in this study.

1.6.1.1 Corporate control construct

Corporate control focuses on the structure and composition of the board and its committees as a control. One of the current key focus areas for boards is separation of duties and oversight, taking into account the separation of the role between the chairperson of the board (chairperson) and the chief executive officer (CEO), the separation between the role of the CEO and CFO and the use of non-executive directors, including independent directors, to oversee and monitor activities of the board as well as of the different board committees (IoDSA, 2009a: principles 2.16 & 12.18). With the continuing focus on oversight, the board remains an important internal control mechanism (Markarian, Parbonetti & Previts,

2007:299). To develop the CI index to assess the level of corporate controls used by the board, this study examines the oversight and monitoring activities of the board and its committees. The 25 indicators used to construct the CI index are summarised in Appendix 5 and discussed in detail in chapter 4.

1.6.1.2 Managerial labour construct

Managerial labour deals with the control and direction of the board's labour, focusing on directing and evaluating board performance in a manner that aligns the interests of the board and the shareholders. Performance-linked incentives and performance evaluations may be used, for example. To develop the MLI index to assess the level of managerial labour control applied by the board, this study considers the tenure, the age of the directors, the evaluation of directors' performance, the frequency of meeting attendance, the structure of directors' remuneration and the value and timing of directors' remuneration. The 23 indicators used to construct the MLI index are summarised in Appendix 6 and discussed in detail in chapter 5.

The relationship between the CI and MLI indexes and firm value is assessed using an agency theory lens to consider the goal alignment impact of board-level controls. Together the CI and MLI indexes are the independent variables used in this study as they encapsulate board-level control as applied by the board as a governance mechanism. The next section briefly introduces agency theory. More details on the historical development and current relevance of agency theory are included in chapter 3.

1.7 Introduction to agency theory

Agency theory focuses on managing the challenges caused by the separation of the board whose decisions control the company (the agents) and the shareholders or owners (the principals), who are the ultimate risk-bearers of the company. The separation of duties alludes to possible goal divergence and exploitation of the

parties. The challenges of goal divergence and exploitation attract more attention after corporate disasters and there is an increased movement towards holding board members personally accountable (Adams *et al.*, 2010:58). Controlling for goal alignment with the shareholders is in line with the "logic of shareholder value maximization" (Lok, 2010:1306; Joseph, Ocasio & McDonnell, 2014:1935). Controlling for the possible exploitation of the owners as residual claimants[22] by the opportunistic decisions of managers or agents (the agency problem) is central to the management of the agency relationship (Fama & Jensen, 1983b:312). The need for controls to counter the possible exploitation of shareholders emphasises the control aspect of governance. Yammeesri and Herath (2010:279) note that control mechanisms are necessary to ensure that management act in the best interests of shareholders. However, adding controls for protection against a possible "downside" can be costly. When the costs of controls exceed the benefits derived from improved efficiencies the control can be viewed as costly.

In South Africa, the current validity of the importance of the separation of ownership from control is encapsulated in sections 30(2A) and 66(9) of the Companies Act (RSA, 2008a). Section 30(2A) waives the audit requirement of private companies in situations where all the shareholders or security holders are also directors as there is no agency relationship that could lead to goal divergence or information asymmetry problems, two main agency problems (Rispel, De Jager & Fonn, 2015:3). Section 66(8) and (9) require directors' remuneration "for services as a director" to be pre-approved by shareholders via a special resolution, thereby reducing the risk of excessive directors' remuneration (RSA, 2008a). Thus, the 2008 Companies Act indirectly controls for an agency relationship.

The continued use of agency theory in some recent studies (Engelen, 2015:928; Muniandy & Hillier, 2015:111; Pepper & Gore, 2015; Rashid, 2015; Rispel *et al.*, 2015) shows its continued relevance as a theory. The agency theory is a useful theory to describe the complex interaction between shareholders and the board given the variety of available measures that can be used to address goal

[22] Shareholders are residual claimants in the case of a liquidation.

divergence. Although the contribution of prior studies based on alternative theories is considered, this study follows an agency theory perspective and a different theoretical view falls outside the scope of this study. Thus, considering a different theoretical view of the board like institutional theory (Wu, Patel & Perera, 2015) is an area for future study.

An agency relationship is defined by Jensen and Meckling (1976:308) as "a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some services on their behalf which involve delegating some decision making authority to the agent". The separation of ownership and control creates a demand for governance mechanisms, like the board or institutional shareholders, to help control goal divergence in an agency relationship (Afshan *et al.*, 2011:82). Agency relationships can lead to conflict or goal divergence, as the directors or managers (called agents) are responsible for the achievement of the company's business objectives and goals, while the shareholders or principals merely receive the benefit of the managers' efforts through increased share prices and profits that can be distributed to the shareholders as dividends. As it is assumed that individuals act with self-interest to maximise their utility, agency theory assumes that directors, as the managers of the company's assets, will act in their own best interests using excessive perks or perquisites (rent-seeking) and shirking, which conflicts with the best interests of the shareholders, who are the residual risk-takers. The maximisation of self-interest through rent-seeking has negatively influenced most of the economies in Africa and is unfortunately also prevalent in South Africa (Gumede, 2015). The conflict generated by the divergence of interests between shareholders as principals and directors as agents is referred to as agency conflict or the agency problem and is not a new phenomenon. It was famously described by Adam Smith as follows:

> "The directors of such joint-stock companies, however, being the managers rather of other people's money than their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which partners in a private copartnery frequently watch

> over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company." (Smith, 1776/2003:941).

The impact of self-interest is not new: warnings in "early accounting textbooks" state that "managers would use accounting to serve their own interests at the expense of shareholders" (Watts & Zimmerman, 1979:279). The maximisation of self-interest remains a challenge that needs to be managed to ensure that individual goal maximisation does not detract from the common goal maximisation (Liu, Gao, Cheah & Luo, 2016). The self-interested and divergent goals of the directors as agents and shareholders as principals have led to the development of agency theory (Berle & Means, 1933; Alchian & Demsetz, 1972; Jensen & Meckling, 1976; Fama & Jensen, 1983b). The seminal works relating to the development of agency theory are discussed in more detail in chapter 3.

In accounting, agency theory plays a prominent role, as "[a]ccounting procedures are devised in order to reduce agency costs of contracts", thereby helping to enhance company performance (Watts & Zimmerman, 1979:278). To further the use of accounting to reduce information asymmetry, section 29(1)(a) (RSA, 2008a) of the Companies Act requires the financial statements of companies to comply with the requirements of the financial reporting standards, thereby helping to set a common standard for financial reporting. Together with the external audit requirement, this results in the availability of useful and reliable financial information on public companies. The 2008 Companies Act sets clear requirements on the rights and obligations applicable to boards and companies. The Act regulates financial reporting (sections 26-28) and monitoring using external audits and independent directors (sections 90 & 94), thereby enabling the capital market to serve as an external governance mechanism through its enforcement of its listing requirements. The above are in line with the elements considered to be important for national governance systems as identified by Yoshikawa and Resheed

(2009:254). Strong financial reporting and auditing are already some of South Africa's strengths as the country was ranked first according to the World Economic Forum's (WEF) *Global Competitiveness Index* (GCI), for the 2012-2013 and 2016-2017 periods, based on the strength of the local application of auditing and reporting standards (WEF, 2012-2013:324-325; WEF, 2016-2017:324-325).

Despite its governance guidelines, South Africa has not been immune to corporate failures, which have been partly attributable to governance and ethical failures. Examples "include Macmed, a healthcare company which collapsed in 1999" at a cost of R986 million, where the company secretary was an unrehabilitated insolvent, Leisurenet, with its collapse blamed on fraud at the highest level costing R1.2 billion and Fidentia, which acted like a Ponzi scheme and spent more than a billion of 'widows' and 'orphans' money (Armstrong *et al.*, 2005:26; Cobbett, 2013). South Africa views insolvency in a serious light as being an "unrehabilitated insolvent" is grounds for disqualification of a person from being a "director or prescribed officer" under the Companies Act (RSA, 2008a: section 69). Corporate failures can, however, render valuable information on the effectiveness and efficiency with which the different mechanisms and controls have been operating to reduce goal divergence.

Since the 2008 global financial crisis, research has been published dissecting the causes and offering governance solutions (Allen & Carletti, 2010), as the Sarbanes-Oxley Act did not prevent the financial crisis. The 2008 global financial crisis "is commonly believed to have begun in July 2007 with the credit crunch, when a loss of confidence by US investors in the value of sub-prime mortgages caused a liquidity crisis" (Davies, 2014). One of the causes of the crisis was attributed to executive remuneration practices that focused on short-term gain (OECD, 2009:10) and enhanced goal divergence. "The role that incentive remuneration played in causing the financial crisis is evident in the significant corporate governance and regulatory changes that have occurred since the economic recession of 2008" (Bussin, 2015:232). Care should, however, be taken not to see improved governance recommendations or regulations as the magic

solution to prevent future financial crises or corporate disasters. No amount of controls can prevent abuse or solve systemic problems, as is evidenced by the 2008 financial crisis. Haspeslagh (2010:375) remarks that failed corporate governance was one of many contributing factors to the 2008 financial crisis, with greed, wishful thinking and linear extrapolation as some of the other factors, while Volcker (cited in Malherbe and Segal (2001:82)) notes that "as long as greed and fear remain part of human genetic make-up financial crises will happen". Thus, the challenges caused by greed or the extreme maximisation of self-interest are part of human nature and result in moral hazard which, in turn, causes information asymmetry, both of which are goal divergence problems.

The prevalent maximisation of self-interest observed in the South African political and economic environment is an indication that the maximisation of self-interest exists in South African society (Nicolaides & Grootes, 2016), and that goal divergence problems remain challenges that should be addressed. Moral hazard and information asymmetry form an integral part of goal divergence problems in the agency theory and are discussed in more detail in section 3.3.4.

Within the broader economic environment, the board as a governance mechanism can still be used to reduce the likelihood of corporate scandals through the application of controls that focus on addressing goal divergence problems. Murphy and McIntyre (2007:209) acknowledge the important role that boards play in the management of the agency problem caused by the divergence of interests. The importance of the contribution of boards was also highlighted in the Cadbury report which made the statement that:

> "[T]he effectiveness with which their boards discharge their responsibilities determines Britain's competitive position. They must be free to drive their companies forward but exercise that freedom within a framework of effective accountability. This is the essence of any system of good corporate governance." (Cadbury, 1992:11).

Despite the differences in origin, the statement regarding the important role of boards of directing their companies within an accountability framework is equally applicable to companies in South Africa, with the legislation and governance regulations providing the overall governance framework. Carver (2007:1034) explains that as shareholders delegate their authority "to the board, not to individual directors and not to the CEO", the board is accountable to the shareholders, establishing an agency relationship. The overwhelming continued use of agency theory in corporate governance studies, (Daily, Dalton & Cannella, 2003:371; Anderson *et al.*, 2007:780; Dalton *et al.*, 2007:2; Ntim, 2009; Mans-Kemp, Erasmus & Viviers, 2016), has helped to retain the theory's position as a dominant theory in the broader corporate governance field.

The theoretical perspective of the agency theory, as applied in this study, is used to explain the predictive nature of the theory, based on the argument that shareholders are the primary focus of the board as they are the people who appoint the board and approve its remuneration. Focusing first on shareholders is also called the "enlightened shareholder value logic", which considers "the interests of employees, suppliers, customers, the environment, and corporate reputation while still giving primacy to shareholder value creation" (Lok, 2010:1309).

This study therefore argues that the board will firstly consider shareholders (as the primary stakeholder group that can hold them responsible and accountable), resulting in an agency relationship, by placing shareholders in the position of a preferential stakeholder. As this study is based on an agency theory perspective, the stakeholder versus shareholder primacy debate falls outside the scope of this study. The shareholder/stakeholder debate mostly centres on answering the question "for whose benefit" should a company be managed, a question that falls outside the scope of this study as the focus is on the relationship between the board as a governance mechanism and firm value. This study's focus on the relationship between the board and firm value is consistent with the fiduciary duty of the board required by the Companies Act section 76(3), to act in the "best interest of the company" (RSA, 2008a). Acting in the best interest of the company leads to goal

alignment as a company that is profitable over the long-term can maximise the utility of both the board and the shareholders. In section 2.3.2, which deals with the uniqueness of South African corporate governance, this study expands on the tension between a shareholder and stakeholder view for an improved perspective on the South African context.

The use of agency theory as the main theory in this study is supported by the continued prominence of the theory in research, as it navigates the relationship between the shareholders who appoint the board, and the board. In addition, the use of an agency theory perspective in the assessment of the board as a governance mechanism and the controls used by the board helps to guide the focus of the study as theories help a study to "look at complicated problems" by "focusing … on different aspects of the data and providing a framework within which to conduct [the] analysis" (Reeves, Albert, Kuper & Hodges, 2008:631). The research methodology used to achieve the purpose and objectives of this study is discussed in the following section.

1.8 Research methodology

The research methodology encapsulates the research approach, world view, design and methods used to test the hypotheses, to achieve the research objectives and the purpose of the study. Chapter 6 discusses the selection of a suitable research approach, world view, research design and research methods in detail.

This study follows a quantitative research approach with a post-positivist world view and a non-experimental design to enable the study to collect observational data to assess the relationship between the board as a governance mechanism and firm value. A qualitative approach requires the quantification of board-level controls and a non-experimental design requires the collection of data linked to uncontrolled variables or indicators. Quantifying board-level control observations enables the study to build the CI and MLI indexes and to measure the

level of controls used by the board as a governance mechanism as a step towards achieving the study's purpose.

1.8.1 Research purpose, objectives and hypotheses

The purpose of this study is to address the knowledge gap with respect to the relationship between the board as a governance mechanism and firm value, that has arisen due to the introduction of the 2008 Companies Act (with its more stringent regulatory environment), from an agency theory perspective. The main research objective or RO of this study flows from the purpose and focusses on the assessment of the relationship between the board as a governance mechanism (CI and MLI) and firm value. Two sub-objectives with their accompanying sub-hypotheses have been developed from the RO.

SO 1 – to develop a CI index to measure the level of corporate control of the board

SH 1 – There is a positive relationship between the CI index that measures the level of the board's corporate control and firm value.

SO 2 – to develop a MLI index to measure the level of managerial labour of the board

SH 2 – There is a positive relationship between the MLI index that measures the level of the board's managerial labour and firm value.

To achieve the sub-objectives to enable the study to test the sub-hypotheses the study developed the CI and MLI indexes to measure the level of the board's corporate control and managerial labour. The index construction was based on the index building principles used in the seminal work by Gompers *et al.* (2001). As the board as a governance mechanism is represented by corporate control and managerial labour the sub-hypotheses lead to the main hypothesis:

H 1 – There is a positive relationship between the board as a governance mechanism (CI and MLI) and firm value.

The CI and MLI are complementary and together encapsulate the board as a governance mechanism, enabling the study to use multiple regression methods to assess this relationship for all the hypotheses in one test. In addition, the use of the same boards over the same period results in a balanced panel that can be assessed using panel analysis methods (econometric methods) that take both the cross-sectional and the time series nature of the data into account. Assessing the relationship between the board as a governance mechanism and firm value requires actual quantifiable data linked to firm value. Firm value is the dependent variable used in this study and the board as a governance mechanism measured using the CI and MLI indexes are the independent variables. Relationships can be assessed using statistical methods such as correlation and regression analysis (Howell, 1999).

1.8.2 Research method

To achieve the research objectives and answer the research questions, data for each director for each of the identified indicators or variables were extracted using mainly the integrated annual reports and websites between 2012 and 2014 of the sample of companies on the SRI index. The extracted data have been summarised to consolidate the data of individual directors to represent the board for each company, and each year. Where necessary, this information has been supplemented by financial and other company information extracted from the McGregor's BFA, INET BFA or IRESS[23] database as well as from the Who owns Whom database.

The extracted and summarised information was used to build the CI and MLI indexes that further consolidated the board-level indicators in the corporate control and managerial labour constructs to enable further statistical analysis. The final

[23] The name of the commercial database changed from McGregor's BFA to INET BFA to IRESS during the period of the study.

assessment against firm value to test the hypotheses used panel data that assessed the influence of the CI and MLI indexes to test the relationship between the board and firm value, using Fixed and Random Effect estimation methods. The assessment also considered the results of the Breusch-Pagan variation of the Lagrange Multiplier test and the Hausman test. Panel analysis enabled the study to combine cross-sectional and time series data, resulting in greater variability, more informative data with more degrees of freedom and less collinearity to help detect more effects than a cross-sectional or time series analysis would reveal (Gujarati & Porter, 2009:592-593).

In constructing the indexes, the guidance of Gompers *et al.* (2001) and their seminal work on the construction of an index in the broader governance field was followed, using dummy variables to score the indicators in the indexes. There are a number of prior South African studies on corporate governance that developed their own unique indexes (Abdo & Fisher, 2007; Ntim, 2009; Mans-Kemp, 2014; Ashwin, 2015). Ntim followed the guidance of Gompers *et al.* (2001) by developing a compliance index that used 50 corporate governance disclosure provisions linked to King II, using dichotomous 0 and 1 to score the index. In addition, Ntim (2009:26) also built an equilibrium variable model based on 11 corporate governance variables using hypotheses. Abdo and Fisher (2007:44) based their research on King II and used 29 variables to develop a G-score. The same G-score index was also used by Opperman (2009) in a study that included 20 companies, and by (Kolobe, 2010) in a study on 74 companies. Abdo and Fisher (2007:44) added a quality of disclosure component scored between 0 for no disclosure, 1 for disclosure, and 2 for evidence of implementation and monitoring. Mans-Kemp (2014:5 & 160) based her corporate governance score on 39 corporate governance factors from King II and the PIC investment evaluation instrument considering disclosure as well as acceptability dimensions and also using dichotomous 0 and 1 to score the dimensions for her corporate governance score. Ashwin (2015:11) used dichotomous 0 and 1 to score 10 qualitative questions for an index based on King III.

This study builds its own indexes which focus on boards as a governance mechanism in the two constructs (CI and MLI) in the context of the South African environment. One of the criticisms of commercial corporate governance rankings is that because they are standardised they are unable to reflect institutional, cultural and contextual differences (Ntim, 2009:22). In recent prior South African corporate governance research (discussed above) the researchers compensated for the lack of localisation of commercial governance indexes by building their own corporate governance indexes (Abdo & Fisher, 2007; Ntim, 2009; Mans-Kemp, 2014; Ashwin, 2015), despite the labour-intensive process needed to build these indexes. However, none of these studies resulted in a maintained South African corporate governance index that can be compared to the Horwath report developed in Australia and subsequently used in governance-related Australian studies (Psaros & Seamer, 2002; Yarram, 2015:162). This study follows the local practice of building unique indexes with 25 indicators consolidated into the CI index and 23 indicators into the MLI index. The relationship between the board as a governance mechanism (using CI and MLI) can be assessed using panel data analysis methods. Gujarati and Porter (2009:593-594) note that panel data can be assessed with the aid of four possible methods of analysis:

1. Pooled ordinary least squares (OLS) model that neglects the cross-sectional and time series nature of the data.
2. The Random Effects model that assumes that the intercept values are randomly drawn from a population of intercepts
3. Fixed Effects least squares dummy variable model, where all the observations are pooled, but the cross-sectional units have their own (intercept) dummy variable.
4. The Fixed Effect within group model that pools all the observations and expresses each variable as a deviation from its mean value and estimates the OLS regression on the de-meaned or mean corrected values.

The CI and MLI indexes measure board-level controls used by the board as a governance mechanism in the corporate control and managerial labour constructs. Measuring board-level controls enable the study to assess the relationship between the board and firm value. The assessment is based on data from 84 subjects over a three-year period in a balanced panel enabling the study to use Fixed and Random Effects estimation methods.

1.8.3 Firm value proxies

Various prior international and local studies in the broader corporate governance field as well as on board characteristics have used econometric methods with various proxies for firm performance or value as the dependent variable (Agrawal & Knoeber, 1996; Yermack, 1996; Ntim, 2009; Mans-Kemp, 2014; Tshipa, 2017). A summary of prior studies with their dependent variables are included in Table 1.1. This study uses a combination of accounting and market-related proxies for firm value to compensate for the lack of consensus on firm value measures (Walsh & Seward, 1990:423). In total four firm value proxies have been identified considering recent prior studies as summarised in Table 1-1.

Table 1-1 Proxies for firm value

Dependent variable proxy for firm value	References to prior studies
Enterprise value per share (EV)	Meyer & De Wet, 2013
Return on Assets (RoA)	Firer, 2003; Firer & Stainbank, 2003; Kyereboah-Coleman, 2008; Ehikioya, 2009; Ntim, 2009; Renders, Gaeremynck & Sercu, 2010; Geletkanycz & Boyd, 2011; Ibrahim & Samad, 2011; Ntim & Oseit, 2011; Mohammed, 2012; Semosa, 2012; Fosu, 2013; Mans-Kemp, 2014; Waweru, 2014a; Ashwin, 2015; Tshipa, 2017.

Table 1-1 Proxies for firm value - continued	
Dependent variable proxy for firm value	**References to prior studies**
Return on Equity (RoE)	Donaldson & Davis, 1991; Kajola, 2008; Ehikioya, 2009; Renders *et al.*, 2010; Semosa, 2012; Mans-Kemp, 2014; Muniandy & Hillier, 2015; Muchemwa *et al.*, 2016; Tshipa, 2017.
Tobin's Q	Yermack, 1996; Kyereboah-Coleman, 2008; Ehikioya, 2009; Ntim, 2009; Christensen, 2010; Daines, Gow & Larcker, 2010; Renders *et al.*, 2010; Yammeesri & Herath, 2010; Ibrahim & Samad, 2011; Ntim & Oseit, 2011; Semosa, 2012; Fosu, 2013; Meyer & De Wet, 2013; Ashwin, 2015; Muchemwa *et al.*, 2016; Tshipa, 2017.

The accounting focused proxies use accounting metrics to develop the ratio of firm performance to assets (return on assets) and to equity (return on equity) as a proxy for firm value. Return on assets is also a mechanism to measure the effective and efficient use of assets by the board (the asset utilisation ratio) and have been used in the calculation of agency cost (Rashid, 2015:181). A possible disadvantage of accounting ratio's is that it can be more readily influence by the accounting practices deployed by the CFO, which is why it is important to also consider market-based measures. The use of multiple proxies enabled the study to test the robustness of the findings for both accounting and market-based measures.

As is evident from Table 1-1, Tobin's Q is the most popular proxy for firm value and represents a mix between accounting and market measures; it is followed by RoA, an accounting measure for management, RoE, an investor-focused accounting measure and EV, a market-focused measure. This study uses EV despite its lower level of popularity as a proxy for firm value because of its market focus. It is nevertheless also possible to consider measures that are more closely related to the organisation, such as employee turnover, absenteeism and illegal acts or

penalties, as proxies for performance (Walsh & Seward, 1990:423). However, the results of organisational measures are generally reflected in the accounting and market valuation methods used in this study. Using ratios as a comparative tool enables comparison between firms irrespective of the size of the firms or the industries in which they operate. More detail on the formulas used for RoA, RoE, Tobin's Q and EV are included in Appendix 3.

Accounting-based methods such as RoE and RoA are commonly used methods to measure performance; however accounting policy or method choices could influence the results of these measures. RoA measures how effectively a company uses its assets to generate profit, while RoE measures how effectively a company uses its equity, including an assessment of the cost and benefit of finance or leverage to generate profit (Brown, 2016). As investors understand the limitations of accounting ratios that are based on historic accounting results, the study also uses more market-based ratios, namely Tobin's Q and EV. Tobin's Q regards the market value of a firm as a ratio of its replacement cost and includes debt considerations like RoE, assessing the effective use of assets to create value for the shareholders (Tobin, 1969). EV is considered to be a better valuation of firm value as it "is a more accurate estimate of takeover cost" and includes "factors such as preferred stock, debt", while excluding cash resulting in a strong takeover valuation (Kennon, 2018).

1.9 Organisation and layout of the study

The remainder of this study is structured as follows: Chapter 2 described the South African context, considering the diversity of the country, its status as a developing country, the market, regulatory and legislative environments. Given the developmental context the discussion on the South African highlights how the strengths of the First World elements contrast against the developmental challenges of the Third World elements.

Chapter 3 started with the evolution and development of the agency theory from the identification of the challenges posed by the separation of ownership and control to the causes of goal divergence and the continued relevance thereof.[24] The challenge posed by cooperative production with the development of agency cost as a method of managing the goal divergence problems using monitoring and bonding was identified. To put the historical development of the agency theory into context, the current relevance of the separation of ownership and control that forms the cornerstone of agency theory was discussed with the emphasis on recent local examples. Lastly, the chapter discussed prior local research that also developed indexes in the broader corporate governance field and ended by summarising the variables used by recent studies that considered board-related variables.

Chapter 4 introduced corporate control as a construct expanded on the use of control variables and board-level control indicators. In so doing, controls that can be used by the board taking into account separation of duties and oversight were highlighted and used in the development of a CI index for the corporate control construct.

Chapter 5 introduced managerial labour as a construct that focuses on the control and direction of the board's labour. The different roles of the board were considered with their tenure, age, meeting attendance performance evaluation and the value and timing of their remuneration were identified and used in the development of an MLI index for the managerial labour construct.

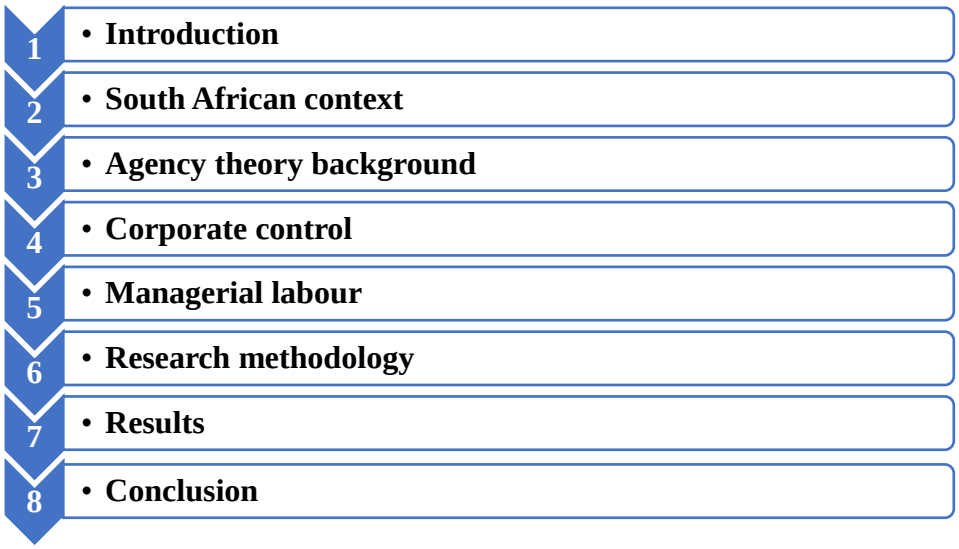
In chapter 6, the research methodology and design were expanded upon. The model, statistical and econometric methods used to assess the relationship between the board as a governance mechanism and firm value were discussed. The data sources and construction process used in the extraction of the data for the indexes and other variables were explained to set the background for the data analysis and discussion section.

[24] The undergraduate and honours degrees in the broader field of accountancy in South Africa focus on strong technical competencies but have poor theoretical underpinnings. Therefore, this thesis explains the historical development of agency theory in detail in chapter 3.

Chapter 7 described the results of the data extracted and the analysis thereof and also discussed the results of the various estimation methods used. The summary and conclusion of the study were provided in chapter 8. This last chapter also highlighted the limitations of the study and areas for future research.

A graphical layout of the different chapters in this study is shown below in Figure 1-1 Study layout:

Figure 1-1 Study layout



CHAPTER 2: SOUTH AFRICAN CONTEXT

"Our human compassion binds us to one another – not in pity or patronizingly, but as human beings who have learnt how to turn our common suffering into hope for the future."
Nelson Mandela

2.1 Introduction

The objective of this chapter is to highlight the relevant contextual characteristics applicable to South Africa. Context is an important lens to use in considering the influence of country-specific characteristics such as the market, regulatory and legislative environments on the board as a governance mechanism. The sophistication of the South African economy sets it apart despite its status as an emerging market or developing economy (Andreasson, 2011b:654). The importance of context is highlighted by Johns (2001:31), who explains that the context of a phenomenon is important as it helps us to interpret results. In addition, country characteristics can be used to help explain the variance in governance mechanisms and ratings between countries. This is especially applicable in countries that differ in respect of legal protection and minority shareholder rights (Doidge, Karolyi & Stulz, 2007:1). Country differences therefore make standard commercially available governance rating metrics less applicable to developing countries. Udayasankar and Das (2007:263) find that better legal systems have a positive impact on governance. In a study on corporate governance in Sub-Saharan Africa, Waweru (2014a:456) states that structural characteristics of developing countries require a different governance model to address the developing context, highlighting the importance of the development of suitable governance codes. This chapter focuses on South African-specific characteristics that influence the broader corporate governance environment applicable to listed companies and more specifically to the boards of those companies.

The uniqueness of the South African situation is explained in this chapter. Section 2.2 begins with a brief overview of the historical background in order to

explain the reasons that have led to the change in some of the current governance-related legislation and regulation. This is followed by a more in-depth discussion on the First World (section 2.3) and Third World (section 2.4) elements that influence governance. Lastly, section 2.5 summarises the importance of the South African context for the board as a governance mechanism.

2.2 South African historical background

The journey from colonialism to democracy has left South Africa with an unusual legacy of a mix between First and Third World elements (Simon, 2001:377), making South Africa a "particularly interesting emerging market to analyse" (Ntim *et al.*, 2015:195). In the run-up to the 1990s, the discovery of mineral deposits led to the development of a strong private sector dominated by a few mining houses with the capital and money markets dominated by large mutually owned insurance and pension funds (Armstrong *et al.*, 2005:10). The colonial past helped to lay the foundation for a strong legislative environment and the dominance of a few firms in the affluent mining and finance sectors helped to sculpt a sophisticated market. The strength of the legislative environment and the market led to their classification as First World elements. The sophistication of the market helped the country to establish highly developed pockets of business excellence, despite the funding constraints that stemmed from isolation as a result of sanctions, which discouraged foreign direct investment (FDI) (Carmody, 2002:256 & 259). As the South African merchant and investment banking industry focused on maintaining an independent relationship with banking clients, they generally did not function as an external governance mechanism (Rossouw, Van der Watt & Malan, 2002:294), and will therefore not be discussed as a First World element despite the fact that they are one of the First World elements. However, this study does not exclude any industry sectors as all sectors have their own legislative requirements and the JSE listing requirements have the same disclosure expectations for all industries. A First World banking sector has had its advantages as it resulted in a "stable banking sector" through the 2008 global financial crisis (Bussin, 2015:238). The financial infrastructure available in South Africa is

considered to be "extraordinary for an emerging market" (Andreasson, 2011b:654). The strong financial sector enabled the broader banking sector to adapt well to a more competitive environment and increased its contribution to the growth of South Africa's gross domestic product (GDP) from 17% in 1994 to 24% in 2012 (Bhorat *et al.*, 2013a:3). Despite the dominance of the insurance and pension funds (Armstrong *et al.*, 2005:10), the role they played as institutional investors only came to the fore in 2012 with the introduction of the *Code for Responsible Investing in South Africa* (CRISA). This is discussed in more depth in chapter 4.

The advantage of strong mineral deposits fuelling the mining sector helped to establish a strong market economy, but the "political disaster of apartheid" resulted in developmental challenges (Malherbe & Segal, 2001:10). Together the above factors helped to sculpt the need for improved governance practices in South Africa, including a need for societal transformation. Andreasson (2011a:1171) noted that this helped South Africa to develop the strongest economy in Africa at the time of democratisation. However, in comparison to the size of other developing economies in BRICS countries (Brazil, Russia, India, China and South Africa) the South African economy is relatively small. Retaining the number one spot (in Africa) has proved to be a challenge as South Africa was upstaged by Nigeria in 2014 and even by Egypt before reclaiming first place in 2016 (Rossouw, 2016).

The changes in the political environment of the 1990s led to a need to change the social and economic environment. Armstrong *et al.* (2005:11) say that the "dismantling of the racially-based political system" in 1994 led to economic liberalisation using macro-economic reform to reduce the budget deficit, contain inflation and interest rates and improve transparency while reintegrating the country into the global economy.

The transition to a more ethical globally competitive business environment was guided by establishing a corporate governance code, King I (IoDSA, 1994). South Africa was the first developing country to develop a corporate governance code (Aguilera & Cuervo-Cazurra, 2009:377). This helped to establish the country

as a leading developing country on the corporate governance front. King I resulted in the institutionalisation of ethics and good corporate governance principles to guide the business transformation process towards a globally competitive environment (Nkomo, 2003:129).

The level of acceptance of the King recommendations in South Africa further underscores the uniqueness of the King codes and reports as corporate governance is generally not strongly institutionalised in emerging markets (Andreasson, 2011b:648). Although the separation of ownership from control, central to the agency theory, is acknowledged in King I, it also highlights the need to hold managers accountable and "encourages enterprise with integrity", giving South African governance an ethical grounding (IoDSA, 1994:1-3).

This ethical focus helped the country to address internal developmental objectives, namely to establish a more inclusive non-discriminatory labour and business environment, to help transform and grow the economy, reduce unemployment and redress past inequalities, and improve the Third World elements. Although growth and the "efficient creation of wealth" are important societal outcomes, unconstrained profit maximisation would be counterproductive as the rights of the public should also be considered (Pretorius, 2004:73), which imposes ethical or moral limits on the maximisation of self-interest.[25] Marx and Els (2009:5) say that the value of ethical business is that it contributes "to short-term profitability of a business" as well as "its long-term survival". Thus, an ethical focus can be beneficial to shareholders in both the short- and long-term. An ethical and longer time horizon can help counter the temptation to adopt a short-term focus. Tullberg (2013:128) states that the increased reporting requirements, mergers and acquisitions, and short-term bonuses encourage a short-term view in CEOs. This study includes an ethical focus and consequently deviates from the view of some prior research in developed countries (Anderson, 1989:1; Blair & Stout, 2001:405;

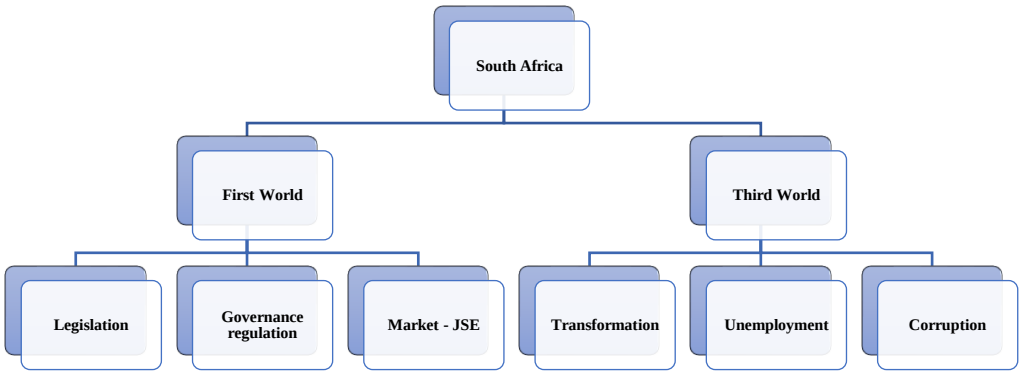
[25] The societal limits are evidenced in the public outcry against "state capture" around the end of 2016 (Pather, 2016). As the "state capture" debate occurred after the focus period of this study and is ongoing it is not discussed in this study.

Robé, 2012:3) that goal divergence implies a blind move that focuses only on maximising utility.

First World elements were used to assist with the transformation or improvement of Third World elements with varying degrees of success. The legislative environment (a First World element) was influenced by South Africa's colonial past and was adapted to help the country transform to a more inclusive society after apartheid. Another First World element is the JSE in its capacity as the market for corporate bonds and shares. The market can be used to attract FDI and enable companies to attract funding by encouraging the application of sound corporate governance principles.

The Third World elements that influence governance options include inequality of skills coupled with a high unemployment rate and corruption,[26] all requiring societal transformation to improve. The mix between First and Third World elements as discussed above is summarised in Figure 2-1.

Figure 2-1 First and Third World elements



Due to social inequality after 1994, businesses were confronted with the need to transform in order to address the inequality gap, as inequality in a marketplace

[26] The discussion of First and Third World elements is not exhaustive and focuses on the key aspects deemed necessary to understand the governance landscape applicable to boards within the South African context.

influences both local available labour and customer bases. The transformational objectives of South African society in relation to governance were addressed from two sides by using legislation and governance regulation to guide the transformation process. The First World elements are discussed in more detail in section 2.3.

2.3 First World elements

The legislative environment in South Africa, coupled with the judiciary, is one of the strengths of South Africa and forms part of the external governance mechanisms in the country along with the well-developed market in the JSE. External governance mechanisms include the legal environment (influenced by institutions like the state and the judiciary), the regulatory environment with its governance codes, and the marketplace facilitated by the JSE which operates the stock exchange (Rossouw, 2008:29). Some of the First and Third World elements applicable to South Africa are highlighted in Table 2-1, which is based on the World Economic Forum's (WEF) Global Competitiveness Index (GCI) for the periods 2012-2013 and 2016-2017.

Table 2-1 Selected South African GCI rankings for 2012 and 2016

GCI index factor description	GCI ranking 2012/2013	GCI ranking 2016/2017
Strength of auditing and reporting standards	1/144	1/138
Efficacy of corporate boards	1/144	3/138
Regulation of security exchanges	1/144	3/138
Legal rights index	1/144	5/138
Protection of minority shareholders	2/144	1/138
Soundness of banks	2/144	2/138
Female participation in the workforce	85/144	69/138
Favouritism in decisions of government officials	110/144	115/138
Pay and productivity	134/144	98/138
Co-operation in labour-employer relations	144/144	138/138
(WEF, 2012-2013; WEF, 2016-2017)		

South Africa's overall position in the 2012-2013 GCI rankings was 52 out of 144, and 47 out of 138 in 2016-2017 (WEF, 2012-2013:324-325; WEF, 2016-2017:324-325). It appears from the above table that, although there have been slight changes in the GCI rankings, the overall rankings of the legislative and governance factors remain high. Given the high rating on auditing and reporting, South Africa differs from other developing countries which suffer from a lack of skilled people in the broader accounting field (Waweru, 2014a:455) and could have difficulty in staffing external audit firms or finding skilled people to serve on audit committees. The ratings of female participation in the workforce and pay and productivity have improved, possibly indicating an improvement on the transformation front, while co-operation in labour-employer relations remained in the lowest position. Improved labour relations legislation, including the right to form trade unions and the right to strike, came at a price in terms of reduced competitiveness. Annual strikes by workers demanding improved wages have resulted in a "strike season" in South Africa where powerful unions claim higher wages to redress inequality while youth unemployment remains high (Molefe, 2011).

Favouritism in decisions by government officials in 110 out of 144 rankings (2012/2013), and 115 out of 138 (2016/2017) continue to reduce competitiveness.[27] The extent of the challenges is illustrated by the Auditor-General of South Africa (AGSA), who reported "that almost half of the departments and a third of public entities materially did not comply with SCM [supply chain management] legislation in their procurement processes", and that the majority of the adverse audit findings centred on "[u]ncompetitive or unfair procurement processes" (AGSA, 2013/2014:58-59). However, as this study focuses on the SRI companies in the private sector, the impact of government as a stakeholder is limited to the legislation enacted by the state.

[27] The level of favouritism that resulted in allegations of corruption by state-owned companies in particular started to dominate the news in 2017 and is not included in this study as apart from Optimum Coal (who are excluded from this study as the company delisted in 2012) the SRI index companies were not implicated in the allegations.

Although the South African banking sector is highly sophisticated, this sector was excluded from the discussion in this chapter as the sector's tradition of independence has resulted in the sector playing a low governance control role (Rossouw *et al.*, 2002:294). The breakdown of the First World elements is described in greater detail, starting with the amendments to governance-related laws to support a democratic society and its transformation needs (discussed in section 2.3.1). Secondly, the discussion focuses on the establishment of a code to guide governance including transformation (discussed in section 2.3.2) and ends with a discussion of the JSE as the market (section 2.3.3). South Africa has used its First World strengths to assist with the process of transformation towards a more democratic society.

2.3.1 South African legislative environment

Early legislative endeavours such as the Companies Act 61 of 1973, the Financial Markets Control Act 55 of 1989 and the Stock Exchange Control Act 1 of 1985 focused on establishing markets with a level of protection against market abuse (Chitimira, 2014:939). Legislation is one of the mechanisms used to bind or limit the options of a board through setting legal obligations requiring the board to act or refrain from acting in a prescribed manner. Thus, the maximisation of self-interest principle in agency theory should not be viewed as unconstrained since as a minimum it is curtailed by legislation. This limitation influences the options boards have regarding how they can maximise their self-interest as well as how they can direct and control the activities of a company.

Together with the legal principles grounded in the common law such as the protection of property rights, the provisions of the 1973 Companies Act initially provided governance guidance by establishing legal principles that helped control corporate activities to protect the capital gathered by a firm (Mongalo, 2003:173-174). These controls are compatible with the principles of managing goal divergence in agency theory as they centre on the protection of the rights of shareholders. For example, the 1973 Companies Act contained sections aimed at governing the relationship between shareholders and directors. These provisions

included the appointment and dismissal of directors by shareholders, and shareholder approval for selling the whole or substantially the whole of the company (RSA, 1973: sections 208-210, 228 & 234), both measures designed to help protect shareholders. The 1973 Companies Act was an improvement as company law was initially based on the English system. However, the 1973 Act did not deal adequately with governance matters (King, 2010:446). This gave rise to a need for legislative renewal.

2.3.1.1 Legislative renewal

Breaking out from the "shackles of apartheid" also resulted in a need for legislative review, to repeal apartheid laws and enact non-discriminatory and transformational laws. To help meet society's transformational needs, labour relations were one of the first focus areas for updated and improved legislation, given the alliance between the ANC, organised labour in the form of the Congress of South African Trade Unions (COSATU) and the South African Communist Party (SACP) (Michie & Padayachee, 1998:632-633). The first laws to be amended related to labour; in fact, the Labour Relations Act 66 of 1995 legitimised organised labour. The Act applies to the employer-employee relationship and grants rights to trade unions (RSA, 1995). Other legislation promulgated to assist with transformation included the Basic Conditions of Employment Act 75 of 1997 and the Employment Equity Act 55 of 1998 (EE). Rossouw *et al.* (2002:296) describe the transformational focus as an endeavour to "advance economic development, social justice, labour peace and the democratisation of the workplace". To lay the foundation for continued legal reforms, a new Constitution was adopted in 1996 (RSA, 1996) with a Bill of Rights[28] that included property rights and specified the following "values:

a) Human dignity, the achievement of equality and the advancement of human rights and freedoms.
b) Non-racialism and non-sexism.

[28] South African legislation divides the different Acts into chapters, which should not be confused with the chapters in this study. For example, the Bill of Rights is in Chapter 2 of the Constitution although it is also discussed in chapter 2 of this study.

c) Supremacy of the constitution and the rule of law." (RSA, 1996: section 1)

The Constitution necessitated the amendment of other laws in a manner that promotes compliance with the Bill of Rights. In addition, the protection of property rights in the Constitution is important (RSA, 1996: section 25), as property rights are seen as an important component of good governance for a country. The Constitution was followed by various laws in which the state guided transformation. As the "Bill of Rights represents a value system" it also helped to update common law principles set through precedents as all precedents have to abide by the principles of the Constitution (Brand, 2009:72-73).

Labour market transformation was influenced by the Employment Equity Act (EE) 55 of 1998, which encouraged the employment of people from previously disadvantaged groups (RSA, 1998b), and the Broad-Based Black Economic Empowerment Act (B-BBEE) 55 of 2003, which encouraged increased ownership in companies by the African[29] majority. In response to criticism, the move to B-BBEE followed a more broad-based approach requiring companies to disclose their transformation efforts (Ntim & Soobaroyen, 2013:123), from employment to procurement. The above legislative changes promoted transformation as well as improved control over managerial power (Mongalo, 2003:176). Although various legislative changes were promulgated after the Constitution, this study focuses on legislation that directly influences the governance role of boards.

2.3.1.2 Market focused legislation

Legislation centred on preventing market abuse includes the prevention of insider trading. The Insider Trading Act 135 of 1998 improved market confidence but it was hampered by inadequate and ineffective implementation and enforcement, which resulted in the enactment of the Securities Services Act 36 of 2004 to prevent insider trading (Chitimira, 2014:940). The Securities Services Act

[29] The terms "Black" and "African" are used to refer to the indigenous tribes of Africa; however, the legal requirements linked to B-BBEE only apply to South African citizens.

"resulted in new policies and approaches among listed companies and their advisors, and has led to a sharp reduction in the perceived incidence of insider trading" (Wilson, 2011).

The change in the economic and legislative environment necessitated improvements to corporate laws. In 2003 the Department of Trade and Industry (DTI) started a broad legislative reform initiative that culminated in a policy paper, *South African Company Law for the 21st Century: Guidelines for Corporate Reform* (DTI, 2004). The policy paper identified key shortcomings in the 1973 Companies Act that included a need for a more simplistic and accessible framework and improved accountability of directors (Pretorius, 2004:67-68). The aim was to "align the Companies Act with 21st century thinking and practice" (Barac & Moloi, 2010:21). Pretorius (2004:70) highlighted the four rights of shareholders included in the policy paper as the right to capital, to income, to vote and to information. The policy paper led to the enactment of the new Companies Act in 2008. Delport (2009:2-3) summarised the purpose of the new Companies Act as to:

> "promote compliance with the Bill of Rights" and the "development of the South African economy by:
>
> - encouraging entrepreneurship and enterprise efficiency;
> - creating flexibility and simplicity in the formation and maintenance of companies;
> - encouraging transparency and high standards of corporate governance as appropriate, given the significant role of enterprises within the social and economic life of the nation;
> - promote innovation and investment in the South African markets;
> - re-affirm the concept of the company as a means of achieving economic and social benefits;
> - continue to provide for the creation and use of companies in a manner that enhances the economic welfare of South Africa as a partner within the global economy;

- promote the development of companies within all sectors of the economy, and encourage active participation in economic organisation, management and productivity;
- create optimum conditions for the aggregation of capital for productive purposes and for the investment of the capital in enterprises and the spreading of economic risk;
- provide for the formation, operation and accountability of non-profit companies (NPC) in a manner designed to promote, support and enhance the capacity of such companies to perform their functions;
- balance the rights and obligations of shareholders and directors within companies;
- encourage the efficient and responsible management of companies;
- provide for the efficient rescue and recovery of financially distressed companies, in a manner that balances the rights and interests of all relevant stakeholders, and
- provide a predictable and effective environment for the efficient regulation of companies" (Delport, 2009:2-3).

The 2008 or 'new' Companies Act affirms the importance of corporate governance, as well as the company as a means of achieving economic and social benefits, enhancing economic welfare, encouraging investment of capital in enterprises, balancing the rights and obligations of shareholders and directors and making provision for relevant stakeholders (employees and creditors) in business rescue events. The Act supports capital investment and enterprise and protects the rights of shareholders as well as other stakeholders through accountability. The consideration of social and economic welfare highlights the importance of companies' catering for a mix of business and societal needs, including the rights of directors, shareholders and stakeholders. The consideration of broader rights deviates from the classical capitalistic model by focusing on stakeholders. South Africa applies a more holistic view in line with the African world view that is based

on the guiding principle of “umuntu ngumuntu ngabantu (I am a person through other persons)”, also referred to as ubuntu (Dolamo, 2013:2).

Unfortunately, despite this society-centred African world view or philosophy, people are not immune to the maximisation of self-interest. Scholtz and Smit (2012:27) note that there is a growing concern that company directors and executives are using their position in their companies to pursue their own objectives rather than focusing on what is best for the company and its shareholders. The maximisation of self-interest is not limited to executive directors; it is reflected in the financial news, with estimated “losses between R25 bn and R30 bn each year to corruption, incompetence and negligence in the public service” (Silke, 2016; Nyathi, 2017). Thus, although the maximisation of self-interest is not in line with the African world view it is a factor in the South African environment and supports the use of an agency theory perspective in this study.

The transition from the 1973 to the 2008 Companies Act took longer than expected and required a stepping stone in the form of the Corporate Laws Amendment Act 24 of 2006. The Corporate Laws Amendment Act distinguished between widely held and limited interest companies, allowed the use of electronic aids in furnishing information, allowed financial assistance for the purchase of shares, added new provisions for the appointment of auditors and audit committees, provided for the Security Regulations Panel and included mechanisms for dealing with non-compliant financial reports (RSA, 2006). Barac and Moloi (2010:21) explain that the incorporation of some of the recommendations of King II into the Corporate Laws Amendment Act “provided statutory backing to corporate governance practices”. The 2008 Companies Act continued the practice to incorporate governance recommendations from King II, including the requirement that the audit committee should include a report in the annual financial statements (section 94(7)(f)(iii)) (RSA, 2008a). The move to legislate governance regulation increased the legislative requirements applicable to boards. In the period 2006 to 2012 the number of changes in corporate law as well as governance regulations led to increased debates around the proposed and enacted changes which increased

general awareness. This made companies more responsive to the need to adapt to change. The advantages of the fact that boards have the ability to direct companies in a changing environment are reflected in the strong rating for efficacy of boards in the GCI (WEF, 2012-2013:325). The high board efficacy rating is not surprising as Yoshikawa and Resheed (2009:254) note that effective governance systems are dependent on strong legal systems. The improved responsiveness to changed guidelines, together with the country's strong auditing and accounting standards in the GCI (WEF, 2012-2013:325; WEF, 2016-2017:325)[30], is possibly another of the reasons why South African companies were able to adapt so quickly to integrated reporting (Makiwane & Padia, 2013:422).

Although the 2008 Companies Act was approved in 2008, there was an immediate need for clarity and improvement, despite the consultative process followed and the Act only came into effect after amendments had been approved and legislated in 2011 (RSA, 2011). As a result, 2012 was the first financial year in which the 2008 Companies Act came into effect. Immediate amendment is not unusual – the 1973 Companies Act was also amended in the year after its enactment (Pretorius, 2004:74).

The 2008 Companies Act included new aspects, for example the option to have share classes with different rights (section 35), protection of whistle-blowers (section 159), and alternative dispute resolution and business rescue (sections 128-156), the focus of this study is on the sections that influence the board as a governance mechanism. This study argues that the increased legislation influences the rigour with which boards approach their duties to limit any future liability claims. For example, the directors' standard of conduct and accountability (sections 76 & 77) (RSA, 2008a) introduced a "business judgement rule" to aid in evaluating whether a director has acted with the "necessary care, skill and diligence" (Barac & Moloi, 2010:21). The latter can be used to aid directors in the application of 'care and skill' but can also be used to hold them accountable. Other examples of sections

[30] South Africa's ratings deteriorated in the 2017-2018 report, however as the revised ratings are well outside the focus period of the study they are not discussed.

of the 2008 Companies Act that influence the board as a governance mechanism include the requirement that public companies should be independently audited[31] (section 90), the establishment of the statutory audit and S&E committees (sections 72 & 94), and sections that directly relate to directors (sections 66-78) (RSA, 2008a). Section 94(4) defines the independence criteria that must be met for directors to be eligible to serve on the audit committee, however, the Act does not use the term independent directors it only refers to directors (RSA, 2008a). The requirements regarding audit and S&E committees are only applicable to larger companies and public companies. As the Companies Act do not differentiate between the different types of directors, the accountability requirements apply to all directors.

The rights of shareholders in terms of their beneficial interest are defined in the Companies Act as the right of a person to receive any distribution and exercise the rights attached to any security (section 1). Protection for minority shareholders (Chapter 5),[32] and remedies (Chapter 7) are also included in case of any complaints or disputes (RSA, 2008a). As a company is a separate legal entity, the board is bound by the Companies Act to act "in good faith and for a proper purpose" and "in the best interest of the company" (RSA, 2008a: section 76). As the Act does not differentiate between the different types of directors it supports the practice of using a unitary board of directors, in line with the Anglo-American model. The enhanced governance requirements in the Companies Act include "a chapter on accountability and transparency" and set out directors' duties of good faith, care, skill and diligence (King, 2010:446), helping to encourage a more rigorous approach to governance by directors. Enhanced governance expectations of the board in the 2008 Companies Act is more prescriptive and directors conduct

[31] The requirement for financial statements to be audited is not new; however, the exception of not requiring an audit for companies where all the shareholders are directors is new, as is the amended provision which makes the audit committee a statutory committee where the shareholders need to appoint independent directors to the audit committee and the audit committee needs to report back to the shareholders. The establishment of a statutory social and ethics board committee is also a new requirement.

[32] The Companies Act is set out in chapters to distinguish between the various concepts dealt with in the Act; these references to chapters refer to the different chapters in the Companies Act and not to the different chapters in this study.

(section 76) and directors liability (section 77) have been highlighted, increasing the risk of legal action against board members (Carciumaru, 2010:251). The 2008 Companies Act retained requirements on financial record keeping but added the requirement that financial statements should be aligned to reporting standards (sections 28 & 29), with increased guidance on company secretaries (sections 86-89), external audit (sections 90-93) and audit committees (section 94) (RSA, 2008a). However, small or private companies were relieved of the audit requirement unless their public interest score required otherwise (RSA, 2008a: section 90). As the 2008 Act included "issues of corporate governance" it provided added impetus to update South African corporate governance guidelines, resulting in the issue of King III on 25 February 2009 (King, 2010:447).

The 2008 Companies Act used the best interests of the company as the focal point for directors' fiduciary duties, with the result that shareholders were no longer the main focus (RSA, 2008a: section 76). This was a shift away from the commonly accepted management theory "that the board represents and safeguards the interests of the dispersed shareholders" (Sur, Lvina & Magnan, 2013:373). Shareholders should, however, be taken into consideration as business enterprises control the employment of capital provided by shareholders to reap rewards (IoDSA, 1994:6). This emphasises the importance of the role of shareholders.

The 2008 Companies Act "sets the framework in which the company operates and the recommended practice set out in King III [discussed in section 2.2.1.2] provide guidance for directors as to how they should direct the business of the company" (King, 2010:446). The initial use of legal developments as early governance controls was not fully supported by a parallel development of corporate governance practices or codes. As there "is always a link between good governance and the law" (IoDSA, 2009b:10), the following section focuses on the development of governance guidelines in the various King reports to address the gap in governance practices.

2.3.2 South African corporate governance regulatory environment

Armstrong *et al.* (2005:10-11) state that until the early 1990s stringent exchange controls coupled with political and financial sanctions impaired the proper functioning of market mechanisms, resulting in "excessive rent-seeking by both government and private sector management" generally at the "expense of employees and shareholders". This highlights the negative consequences of ineffective oversight at board-level and the need for improved governance practices. With the end of apartheid and international sanctions, companies in South Africa were confronted with a different business environment that required them to adapt from an isolated economy to a global competitive business economic environment. Isolation had led to "bloated unfocused" companies managed by "entrenched and complacent managers" while South African corporate governance practices started to lag behind international norms in the 1980s and early 1990s (Malherbe & Segal, 2001:3).

2.3.2.1 Introduction of governance guidelines

To address corporate governance shortcomings, the Institute of Directors in Southern Africa (IoDSA) formed the first King Committee to consider the "special circumstances prevailing in South Africa" and "make recommendations on a Code of Practice on the financial aspects of corporate governance in South Africa", considering simpler reporting, ethical guidelines, and the entrance of disadvantaged communities as entrepreneurs (IoDSA, 1994:3, 43). This resulted in the issue of the *King Report on Corporate Governance* (King I) in 1994, the same year as the first democratic elections (IoDSA, 1994). King I's issue was timely and it helped guide South African business out of a period of isolation towards a market-focused competitive economy while creating "unprecedented interest in corporate governance in South Africa" (Rossouw *et al.*, 2002:289). With the issue of King I, South Africa became the first developing country to frame a corporate governance code (Aguilera & Cuervo-Cazurra, 2009:377). King I was "hailed internationally as a seminal work on corporate governance" (Barac & Moloi, 2010:20). In support of this, Wanyama, Burton and Helliar (2009:162) described South Africa as one of the leaders in corporate governance in Africa and globally. Armstrong *et al.*

(2005:9) noted that the motivation behind King I was unusual as it was not developed because of corporate crises, but to help guide the competitiveness of the private sector following its re-admission to the global economy after the collapse of apartheid. Not only did the governance guidelines help managers adapt to a changed competitive business environment, but they also helped to attract funding through FDI with inflows at R5.7 billion in 1995 improving to R17.9 billion in 1998 (Alessandri, Black & Jackson, 2011:231-232). This illustrates the way a First World element such as strong governance can help to transform society by reducing unemployment, a Third World element.

King I highlighted the fact that the board (i.e. a single board) is responsible for controlling the company and monitoring management while ensuring that it oversees decisions on material matters, with a balance between executive and non-executive directors (IoDSA, 1994: Chapter 4)[33]. Reinecke (1996:11) identifies four activities available to boards to accomplish the above, namely, directing (towards a long-term strategy), executive action (decisions that impact the company and its business), accountability (the board is accountable for the actions of the company) and supervision (oversight and monitoring of management's performance). This emphasised the importance of the role of the board as a governance mechanism. Guiding boards in improved governance in developing countries is considered critical, as it is a mechanism for encouraging economic reform and growth (Chakrabarti *et al.*, 2008:63). This is in line with the principle of applying ethical leadership characterised by the "ethical values of responsibility, accountability, fairness and transparency" towards "enterprise with integrity" introduced by King I (IoDSA, 1994:1-3). The foundation of all the King reports is ethical and effective leadership that is aligned to the African model of corporate governance or ubuntu (Andreasson, 2011b:647). It is possible that ethical leadership can help to curtail the maximisation of self-interest by reducing misuse of resources and rent extraction as South Africa remains vulnerable to the negative consequences of the maximisation of self-interest (Cameron, 2007; Gumede, 2015; Kew & Bonorchhis, 2015; Cameron, 2016).

[33] King I use chapters to distinguish between different sections in the report.

A concern regarding the shortage of skills[34] influenced the recommendations in King I by limiting the number of independent directors to two while encouraging a balanced board. Other recommendations included a list of 10 general functions of a board (Chapter 4), 19 guidelines to directors and eight recommendations for improved transparency relating to the responsibilities of a board (Chapter 5) (IoDSA, 1994).

To help achieve the transformational goal of South African society at the time, and address skills shortages, King I included guidelines on affirmative action that centred on eradicating workplace discrimination and recommending actions by businesses to broaden the skills base for all, as well as recommending worker participation in governance decisions (IoDSA, 1994:7 & 67). The affirmative action recommendation was followed by transformational legislation, including the Employment Equity Act 55 of 1998 (RSA, 1998b) and the Broad-Based Black Economic Empowerment Act 55 of 2003, which encouraged increased economic activity and company ownership by the African majority (discussed in section 2.3.1).

Although King I acknowledged that shareholders need an acceptable return on their investment, it also acknowledged the existence of various stakeholders like suppliers, workers and customers (considering a more inclusive approach), and emphasised that successful companies lead to successful economies (IoDSA, 1994:2).

Given the transformational needs in South Africa, the governance accountability expectation moved from a shareholder focus over time to a more inclusive stakeholder approach. It started by including contracted stakeholders, such as employees, suppliers, customers and the providers of finance and moved to

[34] The shortage of skilled specialist managers and directors in South Africa is discussed in section 2.4.

a broader stakeholder[35] view of the company as a social institution responsible to society and the environment (Rossouw *et al.*, 2002:290). The promotion of other stakeholders (IoDSA, 1994:2) started a movement towards a more comprehensive view of governance that was expanded upon in the revisions of the King reports (IoDSA, 2002; IoDSA, 2009a; IoDSA, 2016). The stakeholder view of South African governance does not detract from the agency theory perspective used in this study, as using a theory different from the perceived theory applied by managers can result in enhanced insight into why some boards perform better than others.

2.3.2.2 Continuous updating of governance guidelines

The importance of strong governance practices countrywide was highlighted in 1996 when the currency (Rand) deteriorated sharply, which in turn led to a change in economic policy and trade liberalisation (Carmody, 2002:258-259). Trade liberalisation helped business ensure continued access to supplies and through a reduction in consumer prices it helped to improve liquidity available to consumers; however, it also required business to adapt to an internationally competitive environment (Carmody, 2002:259). South Africa was not without its share of corporate disasters, which led to the demise of companies such as Leisure-net and Regal Bank and increased the urgency of updating governance guidelines (Barac & Moloi, 2010:21). The changed economic circumstances also highlighted the importance of updating governance practices to stay relevant. King II (the *King Report on Corporate Governance for South Africa 2002)* came into effect on 1 March 2002 (IoDSA, 2002), after extensive consultation (Kakabadse & Korac-Kakabadse, 2002:310).

King II extended the stakeholder perspective of King I to a more integrated approach that included the "fundamental principles of good financial, societal, ethical and environmental practices" (IoDSA, 2002:7). Although King II followed

[35] The fact that South Africa used a broader stakeholder inclusive approach to corporate governance, should not be viewed as contradictory to the agency theory focus of a research study. This study argues that, even though the board will need to consider the views of broader stakeholders to be able to successfully manage the business on an operational level, it will do so strategically and in a manner that maximise the long-term utility of the shareholders who appoint the board.

a more stakeholder-centred approach it still highlighted shareholders specifically and emphasised the importance of "entrepreneurship and enterprise" as drivers of business (IoDSA, 2002:8 & 46). King II dealt with the different stakeholder views by explaining that a board is accountable, in terms of "common law and the statute", to the company it is responsible to and may be called to account to the shareholders, but it cannot be "accountable to all legitimate stakeholders" as asking "boards to be accountable to everyone would result in their being accountable to no one" (IoDSA, 2002:7).

The move towards more integrated governance, including the environmental aspects, does not detract from the profit or entrepreneurial motives of a business. Instead, King II uses the triple bottom line reporting concept in a more integrated approach that embraces social, environmental and financial or economic aspects to ensure the long-term sustainability of the enterprise (IoDSA, 2002:9). Faure and De Villiers (2004:73) found that the Top 100 industrial companies on the JSE were early adapters in the movement towards integrated sustainability, with 95% of the companies disclosing their code of conduct and 86% reporting on sustainability matters.

As the South African environment is important in the context of this study, it is important for businesses in South Africa to recognise that it is an environment where "many of the country's citizens disturbingly remain on the fringes of society's benefits" (IoDSA, 2002:18).[36] This encourages a more transformational process using an inclusive system with consultation on all levels (IoDSA, 2002:19), thereby encouraging transformation through the acceptance of corporate social responsibility (CSR) in the management of businesses by adopting a more inclusive stakeholder view. Oliveira, Ceglia and Filho (2016:5) state that the consideration of stakeholder interest differentiated South Africa from the "dominant Anglo-American model". This helped South Africa to develop an African model for

[36] The high unemployment rates that persist indicate that this is societal problem that still needs to be addressed.

corporate governance, in line with the African world view (Andreasson, 2011b:647).

To guide the board, King II included several recommendations that focused on the board. These recommendations centre on using a balanced unitary board with a majority of non-executive directors with sufficient independence to protect the shareholders' interests, an independent chair for the board as well as its committees, and annual board and director evaluations (IoDSA, 2002:22-30). The use of independent directors as monitors is therefore seen as a mechanism to help control goal divergence in line with global practices (Bebchuk & Weisbach, 2010:943).

The sustained process of updating corporate governance guidelines resulted in governance guidance being updated in tandem with the process of developing the new Companies Act and culminated in King III. King III consists of two publications: the *King Code of Governance Principles for South Africa 2009* (IoDSA, 2009a) and the *King Report on Governance for South Africa 2009* (IoDSA, 2009b). Barac and Moloi (2010:22) explain that for the first time the recommendations of King III applied to all businesses following an 'apply or explain'[37] approach (IoDSA, 2009b).

To align King III's recommendation to the 2008 Companies Act, the word "must" was used to indicate governance principles aligned to the Act, and "should" was used for recommended practices (King, 2010:447). King III included specific recommendations regarding the composition and governance of the board. Among other principles it required that the majority of the directors should be non-executive, and that the majority of non-executive directors should be independent (principle 2.18), with at least two executive directors (CEO & CFO) (principles

[37] This basis considers the "legal duty of the board to act in the best interest of the company" and leaves the power to select the best control mechanisms to govern the company to the board by requiring explanations as to how the 75 principles of King III were applied or reasons why they were not applicable, highlighting the importance of applying the underlying principles (IoDSA, 2009b:12).

2.17 and 2.18, paragraph 73), and the board chaired by an independent non-executive director (principle 2.16).

It also required that one-third of the non-executive directors should retire by rotation annually (principle 2.18, paragraph 75),[38] that self-governance should be applied though an evaluation of director independence (principle 2.18, paragraph 76), that there should be a board self-evaluation (principle 2.22) and performance-based remuneration linked to fair short- and long-term rewards while non-executive directors get a fixed fee and a fee for attending meetings (principle 2.25)[39] (IoDSA, 2009b). King III also acknowledged that "[g]overnance, strategy and sustainability have become inseparable" and moved in the direction of integrated reporting to extend the reporting on finance to include sustainability (King, 2010:446).

King IV came into force towards the end of 2016 and continued the process of updating governance recommendations so that they remained current and encouraged continued competitiveness (IoDSA, 2016). The revision considers three main shifts, namely a change from "financial capitalism to inclusive capitalism", as evidenced in the move "from siloed to integrated reporting", and a shift from "short-term capital markets to long-term sustainable capital markets" (IoDSA, 2016:4-5). To better guide continued improvement, King IV consolidated the 75 principles used in King III into 17 principles using an outcomes-based approach to "apply" the principles "and explain" the practice, included sector-specific guidelines and

[38] Retire by rotation is applied in South Africa and takes the form of requiring approximately one-third of the non-executive directors to retire every year to enable the shareholders to revisit their appointment in three-year cycles. The objective of the method is to help maintain an independent mindset for non-executive directors in a manner that also ensures that tacit knowledge of the board and its operation is not lost. Rotation can also be transformational through the inclusion of some less experienced directors to give people from previously disadvantaged backgrounds opportunities to gain experience. Executive directors tend to have longer employment contracts as they are also employees of the company. Although the rotational element has some characteristics in common with the structured boards popular in the USA, retirement by rotation is not a takeover defence.

[39] Non-executive director remuneration must be approved in advance by the shareholders using a special resolution (the directors part of directors' remuneration must be approved by shareholders; the employee part of executive directors' remuneration is determined in line with the remuneration policy for employees and disclosed). Non-executive director remuneration must be pre-determined depending on their work as monitoring directors (although a fixed and meeting attendance fee is recommended, most companies develop an inclusive fee as a monitoring role is not limited to meeting attendance) and cannot be linked to the performance of the company.

used the term “governing body” and not “board” to ensure its guidelines are more user-friendly to a wider variety of different entities (IoDSA, 2016:3-7). King IV did not deviate significantly from King III and retained the key focus on ethical leadership, a societal view, CSR and sustainability with integrated reporting (PwC, 2016). Although King IV has retained the focus on independent oversight of the board, an independent chairperson, statutory audit as well as S&E committees, the report also encourages “integrated thinking” (IoDSA, 2016:28-32). The shift to “integrated thinking” accommodates interconnectedness and interdependencies in business to ensure that the organisation can continue to “create value over time” (PwC, 2016).

Despite the fact that the various King guidelines are not legislative requirements, listed companies tend to apply them and disclose compliance as this is a listing requirement (JSE, 2011). However, the general level of increased acceptance over time could also be an indication of societal pressures to transform into a more inclusive society leading to a more competitive economy (Andreasson, 2011b:656). Although compliance with the King reports is voluntary, widespread acceptance of the principles has helped to establish best practices that can be upheld in a court of law and become part of the common law (PwC, 2016).

Given the high efficacy score of corporate boards in the GCI of first out of 144 and third out of 138, it is evident that the use of legislation coupled with governance guidelines over time has helped to improve competitiveness in governance (WEF, 2012-2013:324; WEF, 2016-2017:324). This study uses the guidance of King III to identify control mechanisms available to the board to help control and direct the business of a company as King III’s recommendations apply to the period of the study. Despite the early use of governance guidelines in South Africa with the introduction of King I, academic research into the broader corporate governance field as well as the board as a governance mechanism got off to a slow start.

2.3.2.3 Prior South African research

In comparison to the extensive literature on governance, South African research on corporate governance is limited in depth. The variety of local studies on corporate governance highlight the broad reach of the corporate governance field. Appendix 10 summarises South African studies that centred on corporate governance by highlighting the focus and findings of the studies. Prior South African research on the board as a governance mechanism was significantly sparser in comparison with governance research, and generally focused on specific board-related variables. However, the findings of board-related variables are more pertinent to the focus of this study.

No prior South African study could be found that performed and in-depth assessment of the relationship between the board and firm value. Thus, although the corporate governance body of knowledge suggests that good governance by the board should be positively related to firm value, the changed legislative and regulatory environment means that the new reality needs to be assessed as the past cannot always be used to predict the future. Table 2-2 focuses on discussing the variables and findings of prior South African research that centred on the board and board-related variables.

Table 2-2 Board-related studies in South Africa

Author and year	Focus of the study	Key findings
Swartz and Firer (2005)	Examined the relationship between board structure in terms of gender and ethnic origin and intellectual capital performance.	Found a significant positive relationship between ethnic diversity and intellectual capital performance, while the relationship with gender did not appear to be significant.

Table 2-2 Board-related studies in South Africa - continued		
Author and year	**Focus of the study**	**Key findings**
Ntim and Oseit (2011)	Investigated corporate board meetings on performance.	Uncovered a statistically significant relationship between the frequency of meetings and performance.
Scholtz and Smit (2012)	Considered the relationship between short-term executive compensation and company performance.	Found a strong relationship between executive remuneration and company performance variables such as total assets, turnover and share price.
Ntim and Soobaroyen (2013)	Investigated the relationship between BEE disclosure and institutional ownership and board diversity.	Institutional ownership was negatively associated with BEE disclosure whereas board diversity and dual leadership structures were not significantly associated with BEE disclosures.
Muniandy and Hillier (2015)	Considered the association between firm performance, board independence and growth options before and after the introduction of King III.	The transition to King III had a positive impact on the relationship between independent non-executive directors and the growth potential for firm performance.
(Mans-Kemp & Viviers, 2015a)	Considered the relationship between female and black board members and earnings per share or total shareholder return.	Found an increased percentage of female and black directors on the JSE, with a positive relationship between female and black directors and earnings per share, but a negative relationship to total shareholder return.

Table 2-2 Board-related studies in South Africa - continued		
Author and year	**Focus of the study**	**Key findings**
Ntim *et al.* (2015)	Investigated the association between board size and firm value.	Found a positive association between board size and firm value.
Scholtz and Engelbrecht (2015)	Investigated whether corporate governance measures influence executive directors' remuneration.	Found that institutional shareholders had a monitoring effect on share options and that non-executive directors on the remuneration committee moderated executive remuneration through the number of remuneration committee meetings.
Smit (2015)	Investigated whether monitoring by non-executive directors improves earnings quality in the AltX companies.	Quality of earnings did not improve with monitoring by a higher percentage of non-executive directors.
Viviers (2015)	Investigated the nature of executive remuneration issues raised by shareholder activists.	Found that institutional shareholder activism mainly occurs via private negotiations and proxy voting.
Viviers and Smit (2015)	Investigated proxy voting as a form of shareholder discontent.	Companies excluded from the JSE's SRI index in 2013 attracted significantly more opposition when seeking shareholder approval of the election or re-election of directors and the placing of shares under the control of directors.

Table 2-2 Board-related studies in South Africa - continued		
Author and year	**Focus of the study**	**Key findings**
Muchemwa *et al.* (2016)	Hypothesised a positive relationship between the ratio of non-executive directors and executive directors and board size to firm value.	Found that the proportion of non-executive directors and board size was not significantly related to Tobin's Q. However, the proportion of non-executive directors was found to be positively linked to RoE, and board size was positively linked to RoA.

As the board is one of the many governance mechanisms used in corporate governance studies; the sections in corporate governance studies that include board-related variables were also considered in this study. It is apparent from the above tables that prior studies that focus on the board generally have a narrow focus and use only a few variables. In addition, the board has not been as extensively studied as corporate governance, thus there is a dearth of South African studies that considered the board as a governance mechanism in-depth. This chapter focuses on the South African context, which uses a hybrid governance system (PwC, 2016), to establish the correct context to serve as a backdrop for the study. The various board-related indicators that form the basis of the board as a governance mechanism are defined in the corporate control and managerial labour chapters to enable the development of indexes (chapters 4 and 5).

2.3.2.4 Uniqueness of South African corporate governance

It is important to consider how the guidance of the King reports fits into the global governance landscape. Recent South African studies differentiated between the shareholder or agency model and the stakeholder model and followed a stakeholder model approach justified by the use of a stakeholder perspective in the King reports (Mitchell & Hill, 2010; Mans-Kemp, 2014). The discussions on the

shareholder versus stakeholder supremacy debates focus on benefits by considering "for whose benefit a company should be managed" (Blair & Stout, 2001:403; Bratton & Wachter, 2008:100-104; Kyereboah-Coleman, 2008:1071-1073). These studies did not consider governance in the context of ethical leadership or the difference between the South African hybrid model and the classical shareholder versus stakeholder model. Figure 2-2 illustrates the contrast between of the shareholder and stakeholder models.

Figure 2-2 Shareholder versus stakeholder models

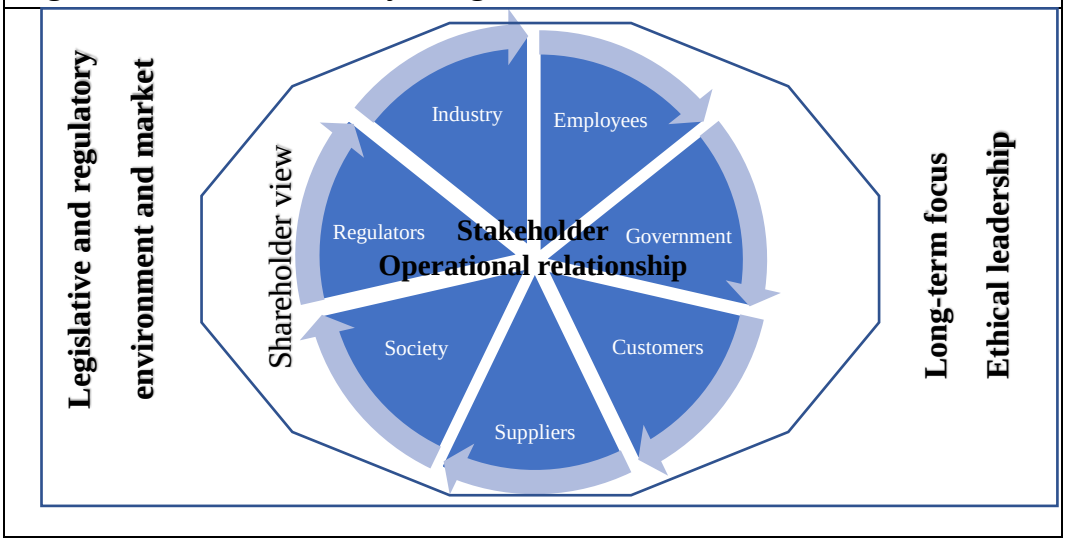
Adapted from Rossouw (2008:31) and Walsh and Seward (1990:423).

The two different views can be merged by adopting the perspective that shareholder wealth is "subject to the constraints that the interest of the other claimants [stakeholders] are reasonably met" (Walsh & Seward, 1990:423). Given the continued shareholder prominence with the inclusion of a stakeholder focus and ethical leadership with its expectations of societal fairness, South Africa developed a hybrid model made up of elements from both the shareholder and the stakeholder perspectives.

The adoption of an African world view could help to embed societal expectations through the consideration of CSR in a strong legislative and market environment in a manner that encourages enterprise towards improved shareholder wealth, especially over the long-term. This study argues that even when stakeholders are considered, especially in the day-to-day management of the

enterprise which directly involve the stakeholders as suppliers, customers, employees it is done in a manner that is subservient to the shareholders using a more strategic longer term view in line with the enlightened shareholder logic (Lok, 2010:1309). The South African stakeholder view differs from the European or Japanese model as it is not bank-centred, it highlights the importance of considering all role players in the continued success of any enterprise. The hybrid model is illustrated in Figure 2-3 – South African hybrid governance.

Figure 2-3 South African hybrid governance



South Africa's governance model is influenced by ubuntu, which highlights the importance of the community and is critical on an operational level as customers and employees are generally from the community. In addition, it operates in a market driven by a capitalistic-focused economy supported by a strong legislative environment. The capitalistic focus is underscored by the use of capitals in integrated reporting (IIRC, 2013), however, using integrated reports to communicate with a variety of stakeholders remains a challenge (Rensburg & Botha, 2014:152). Together with the limitations posed by legal and governance requirements, the maximisation of self-interest is bonded on an ethical level by "encouraging enterprise with integrity" in an environment with coordinated social upliftment expectations or CSR (IoDSA, 2002; IoDSA, 2009b). There is tension within this context as the board is accountable to the shareholders (establishing a shareholder relationship exposed to the normal agency problems), but also needs to

ensure that the company's enterprises flourish in an environment with social upliftment challenges. Thus, in the day-to-day management (operational management) of the company, the board needs to consider the impact of the stakeholders and resources on the company's enterprises. The board's direction and control of the company takes place on a strategic level as the board is accountable to the shareholders and, therefore, goal divergence needs to be considered. This tension between shareholders and other stakeholders needs to be mediated by boards to ensure that they direct and control the enterprise in a manner that serves the best interests of their companies in the short-, medium- and long-term. By considering the broader community or stakeholders, the board can also benefit the shareholders through improved firm value over the long-term, as firms with a longer life expectancy are more valuable. One of the methods used to value a business is the net present value (NPV) of future cash flows (Steiger, 2008:1).

$$\mathrm{NPV}(i, N) = \sum_{t=0}^{N} \frac{R_t}{(1+i)^t}$$

In the above formula, N is the total number of periods, R_t the net cash flow in period t, and i the rate used to discount the cash flows. A longer-term focus is therefore useful to shareholders as it can result in a higher present value valuation of the firm.

Classic agency theory precludes companies from investing in CSR projects as it would be at the cost of both managers and shareholders, whereas stakeholder theory would be more likely to embrace CSR (Esser & Dekker, 2008:157). Thus, if South African governance was successful in marrying the agency and stakeholder perspectives, B-BBEE share deals would increase firm value. B-BBEE deals require extensive resources to fund the discounted value of the shares offered in the deal, and the commitment of a lot of management time to the assembling of the deal, as the offer is made to less sophisticated users (Alessandri *et al.*, 2011:236). These additional costs make the deal costly and could clash with the shareholder view when the cost exceeds the benefit. However, from a social and wealth perspective, sacrificing short-term profit for long-term social improvement could

result in increased profitability over the long-term and improved firm value (Esser & Dekker, 2008:158).

When event study was used to determine the market reaction to Black Economic Empowerment (BEE) or B-BBEE deals, Alessandri *et al.* (2011:239-240) found that "BEE deals completed at a discounted equity price resulted in positive stock returns for the participating firm, while BEE deals completed at a premium resulted in negative stock returns". Thus, even though transformational practices like BEE CSR projects are expensive, they can be to the benefit of the shareholders where they result in real upliftment. However, not all deals resulted in improvements as Ferreira and De Villiers (2011:36) found a negative relationship between BEE levels and share returns in one year.

Although shareholders could also be viewed as one of the stakeholders, in practice shareholders have a predefined power, stemming from both governance regulation and legislation, that gives them an advantage. The manner in which the King reports highlight the role of shareholders, to appoint, remunerate and hold the board accountable, supports the use of an agency theory perspective for the evaluation of the relationship between the board and firm value. However, this study acknowledges that the board will consider stakeholders in directing and controlling the operational activities and enterprise of a company. While a more strategically focused shareholder approach with its accompanying agency problems will be used to manage the shareholder relationship as shareholders have the power to appoint and dismiss the board. The focus of this study is on the relationship between the board as a governance mechanism and firm value using an agency theory perspective.[40]

Aguilera and Cuervo-Cazurra (2009:376) state that the increase in governance codes by "mid 2008" and the accompanying increased research show the importance of codes in encouraging good governance practices. South Africa is

[40] The relationship between the board and the various stakeholder relationship is an area for future study.

possibly an example of how the use of governance guidelines helped companies to adapt to a competitive environment. Care should be taken not to use a "one size fits all" approach to governance codes as companies and their businesses vary (IoDSA, 2016:29). Wu *et al.* (2015:251) found that importing "good governance" principles by a developing country would not yield the expected results if the implementation is ceremonial in nature. The risk of looking compliant while ignoring the underlying control principles is the reason why an important element in South African governance codes is the continued emphasis on "entrepeneurship and enterprise" (IoDSA, 2002:8), "economic value" and "positive performance of the company in creating value", linked to the voluntary nature of the codes (IoDSA, 2009b:12, 41 & 54). Boards were required to apply governance principles in the best interests of the company and the adoption of an 'apply or explain' approach implied that the governance process implemented is deemed by the board to be in the best interests of the company (IoDSA, 2009b:12), and is expected to result in improved firm value. With the opening up of the economy, the choices made by boards are subject to eventual judgment by the JSE in its capacity as the market. To aid in the process, the JSE included disclosure on the level of compliance with the King codes as a listing requirement (JSE, 2010a). The next section discusses the JSE.

2.3.3 The JSE as the market for corporate control

The legislative environment, especially after the passage of the Financial Markets Control Act 55 of 1989 and the Stock Exchange Control Act 1 of 1985, supported the existing well-established stock exchange. Malherbe and Segal (2001:25) note that the JSE is "one of oldest stock exchanges outside Europe and North America".

The development of a strong local market in the JSE can be attributed to the need for capital in deep-level mining, especially considering the limitations imposed by exchange controls and international sanctions in the latter part of the 20th century (Carmody, 2002:262). Malherbe and Segal (2001:25) note that early on the JSE established a strong equity culture supported by "[s]trong non-bank financial institutions such as pension funds and life insurance companies" that

"channelled a large part of household savings into equity". This made the JSE the largest stock exchange in Africa (Londt, 2005:60). The prominence of the JSE is underscored by its ranking as "the 19th largest stock exchange in the world by market capitalization" (JSE, [S.a.]). Access to funding via the JSE in an isolated environment resulted in the South African market being dominated by large groups or pyramids and in a tendency for smaller groups to be formed where the holding company is separate from the operating structure (Davidson, 1997:51-52).

Opening the market after 1994 also resulted in some companies establishing primary listings outside South Africa, which increased the global footprint and improved access to funding for those companies (Rossouw *et al.*, 2002:291-293; Armstrong *et al.*, 2005:23). Among the companies that moved their primary listing to London to help access capital and expansion opportunities are Anglo American, Old Mutual and SA Breweries (Carmody, 2002:263).

The move towards global competitiveness and the restructuring of some of the South African companies resulted in a reduction in the number of companies listed on the JSE; this number fell from 668 in 1998 to 620 in 2000, 426 in 2004 and 401 in 2011, possibly due to consolidation and a reduced demand for equity in the domestic market (Rossouw *et al.*, 2002:290-291; Armstrong *et al.*, 2005:24; Makiwane & Padia, 2013:428). Governance concerns, the increased competitiveness that resulted from the opening of the South African markets, coupled with the transformational demands of the South African economic environment, resulted in the unbundling of the dominant control over South African companies, with a dismantling of complex control structures in order to remain attractive to investors (Bebchuk, Kraakman & Triantis, 2000:313; Malherbe & Segal, 2001:3). However, despite the dramatic change in ownership structures little subsequent South African research focused on identifying controlling shareholders (Steyn & Stainbank, 2013); most focused on the use of blockholders with a 5% or more shareholding (Abor & Biekpe, 2006; Mangena & Chamisa, 2008; Ntim, 2009; Ntim *et al.*, 2015), but reported the more concentrated share ownership and pyramid structure as differentiating characteristics of the South African market (Fosu, 2013).

South African governance is differentiated by its continuation of an equity culture where long-term investment and insurance companies continue to channel public savings into equity investments including via pension funds (Thom, 2014). The practice of using group structures that separate the holding company from the operating companies persists and can complicate the analysis of results as the holding company need not have any own sales[41] as it focuses on legal and financial matters whereas the underlying operating company focuses on operational matters that generate income. In line with the European model, institutional shareholding in South Africa may result in large total shareholdings with Kyereboah-Coleman (2008) reporting a mean institutional shareholder presence of 56%.

Despite an entrenched culture of using equity to fund firms, new equity for small and medium-sized firms became difficult to attract, possibly due to concerns about the governance and leadership of smaller firms (Malherbe & Segal, 2001:4). To assist smaller entities, the JSE launched the AltX division for high-growth smaller companies (JSE, 2010a). This successfully encouraged smaller growth companies to use the JSE market to attract funding via equity as by 2012 more than R1.25 billion had been raised and the 100th company had been listed on the AltX in August 2012 (Minney, 2012).

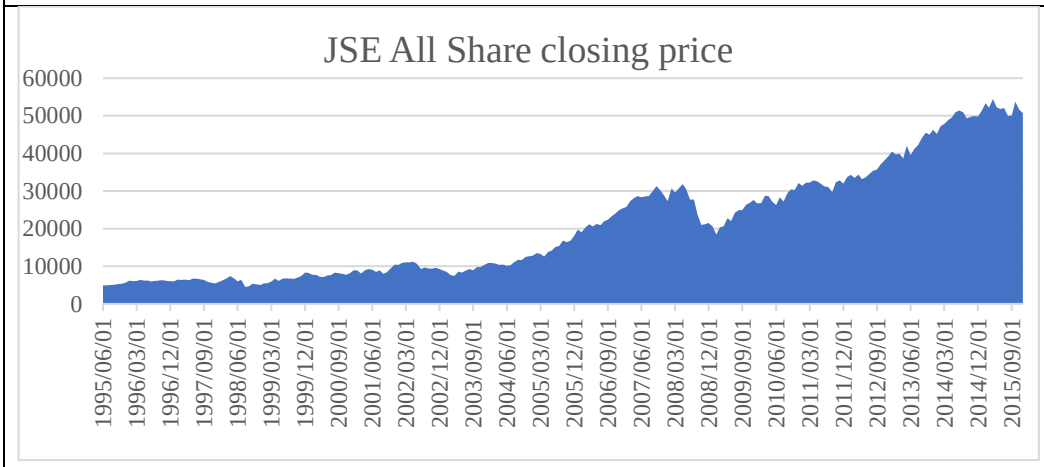
To ensure that the market kept abreast with global practices, the JSE comprehensively revised its listing requirements in 1995 and 2000 (IoDSA, 2002:9). In addition, the JSE also implemented many of the recommendations made by the various King reports by incorporating them into the listing requirements (Mongalo, 2003:175; JSE, 2010a; JSE, 2011).

The JSE is also subject to regulation and needs to apply annually to "the Minister of Finance for an operating licence", is "under the control of the Financial Services Board" and operates "under the Security Services Act No. 36 of 2004" (Londt, 2005:63). Rossouw *et al.* (2002:294) note that the South African regulatory

[41] As a number of holding companies are large listed companies a better measure for firm size is total assets as sales might not be the best measure of size where a holding companies does not have its own sales.

system followed the development of the financial system in its evolution. This helped the country to adapt to the competitive global business environment. Thus, using legislation and governance regulation or guidance, South Africa guided its businesses towards transformation to enable them to adapt to a more competitive market. The value of improved governance and the strength of the markets are evident in the overall performance of the JSE all shares for the period 1994 to 2015, as illustrated in Figure 2-4.

Figure 2-4 JSE closing price 1994-2015



With the JSE as the market, companies had access to funding and prospective investors were able to access shares, enabling an agency relationship. As a result of legislation and governance guidance, the agency relationship was not unfettered as the board were accountable and responsible to the shareholders via their shareholding and the power to appoint, dismiss and approve the remuneration of the board rest with the shareholders (RSA, 2008a: sections 61, 66 & 71). Through legislation, regulation and the market the external First World elements restricted the governance options of the board, and limited maximisation of self-interest within the specific context applicable to South Africa.

The First World elements were also used to help address the need for societal transformation (discussed in section 2.4) and the improvement of the Third World elements. The Third World or developing country elements highlight key differences between developing and developed countries in terms of broader social

responsibility. Rossouw (2002:417) noted that companies in developing countries "often need to take on responsibilities that are not normally considered the responsibility of companies" to help "to ensure stable and strong communities in which they can operate", thus involving "themselves in matters such as eradicating backlogs in education, training, health care" to name a few examples.

2.4 Third World elements

The legacy of colonialism followed by apartheid resulted in a South African society divided "along racial and economic lines" (West, 2006:435), thus creating a need to transform the country. The ANC-led government responded with "sweeping reforms" that helped to alter the South African social, political and economic climate and brought an end to sanctioned economic isolation (Alessandri *et al.*, 2011:231). Bhorat *et al.* (2013a:2) state that this need for transformation was compounded by the expectation that political freedom would result in economic prosperity.

The transformation process was kick-started by using labour-focused legislation, moving to empowering broader share ownership (section 2.3.1) and using economic policies (section 2.4.2) aimed at growing the economy to create more employment. The urgent need for social development, grounded in the expectation that political freedom would result in economic prosperity, resulted in CSR and the role of corporations in transformation becoming increasingly salient in the broader governance debate (Andreasson, 2011b). To understand the scope and demands faced by a transformational process, it is important to consider South Africa's demographics to better understand the need for social upliftment through transformation (section 2.4.1). Thereafter transformation is discussed in section 2.4.2, followed by unemployment (section 2.4.3) and corruption (section 2.4.4) as the last Third World element.

2.4.1 Country demographics

South Africa is a diverse developing country with eleven official languages and a population of 51 million people in 2011 (Statistics South Africa, 2012:12). A summary of the demographic details is given in Table 2-4. The table shows that nearly 80% of the population is African[42] with an average age of 24 years and a labour participation rate of only 64%. In contrast, the White, Indian or Asian and Coloured population groups make up 20.3% of the population with an average age of over 30 years. The White population has the highest labour participation rate at 76.8%.

The poor labour participation rate of the other groups highlights the country's Third World elements, namely the continuing need to address transformation, including in the areas of education (section 2.4.2) and unemployment (section 2.4.3). It is clear from Table 2-3 that after more than two decades the country is still trying to deal with racial inequality. However, the age median should be taken into consideration as older people generally have more experience and are more employable.

Table 2-3 Summarised South African demographical information

	Percentage of the population	Median age in years	Expanded labour force participation rate
African	79.2	24	64.4
Coloured	8.9	27	68.5
Indian/ Asian	2.5	32	66.4
White	8.9	39	76.8
Other	0.5		

(Statistics South Africa, 2012:17, 22 & 51)

The Third World elements that differentiate South Africa include the need for transformation to address past inequalities and unemployment problems in an

[42] The indigenous people from Africa are referred to as "African" or "Black", in Table 2-4. Statistics South Africa uses "African" whereas in the context of BEE or B-BBEE the term "Black" is used to indicate the racial or ethnic group.

environment where corruption and misuse of resources are threats that could hamper transformation goals.

2.4.2 Transformation

The main process used for transformation was the revision of South African laws (refer to section 2.3.1). The more significant transformational laws are labour-related and are discussed in section 2.4.3.

The move to use legislation for transformational purposes was possibly motivated by the slow pace of change immediately after 1994. Michie and Padayachee (1998:623-624) say that the slow delivery of social and physical infrastructure was also centred around financial difficulties at regional and local government level "exacerbated by a culture of non-payment for services" and the lack of capacity to "coordinate and implement the changes", complicated by growing corruption. However, non-income indicators of welfare such as improved access to basic services such as water, electricity and sanitation did increase after a slow start (Bhorat *et al.*, 2013a:16). Access to piped water and electricity as per the 2011 census is summarised in Table 2-4, showing the levels of improved access from the 1996 census results to the results of the 2011 census.

Table 2-4 Access to water and electricity

Year	Electricity	Piped water
1996	58.2%	60.8%
2001	69.7%	62.3%
2007	80.1%	69.4%
2011	84.7%	73.4%

(Statistics South Africa, 2012)

The initial improvement in the delivery of services, albeit slow, did make a "palpable change to many people" though improved access to water for four million, the provision of sanitation for three million, the establishment of 600 clinics, and the provision of electricity to 1.5 million houses (Aliber, 2003:476).

Although access to basic services has improved, local government still finds it difficult to sustain service delivery to the people. Ababio, Vyas-Doorgapersad and Mzini (2008:5) caution that deficiencies in the internal control system that forms the basis for public accountability[43] can negatively affect service delivery. They link poor service delivery via deficient internal controls to insufficient accountability. The culture of civil action using "mass-scale violence" in the struggle for freedom (Andreasson, 2011a:1177) has helped to establish a societal precedent for civil protests as a corrective control. Thus, protest action is believed to be an acceptable mechanism by which to voice discontent[44] and spur government towards improved service delivery.

Unfortunately, "rent-seeking" behaviour is becoming an increasing bigger problem where politically connected people are appointed to positions "when they do not have the competence" and could "cause waste, mismanagement and inefficiencies" (Gumede, 2015). The lack of competence highlights the ongoing need for training and improved control over deliverables. Despite the high levels of unemployment and improvements in education, the shortage of skilled resources in South Africa remains a major societal challenge (Herringer *et al.*, 2009:18). Training needs also extend to the pool of specialist managers whose task it is to provide training in the use of monitoring controls. Training costs could be reduced by ensuring that competent appointments are made for board positions; alternatively, companies could make transformational appointments and add training to upskill promising individuals. Improved introduction of specialist managers into the country's pool of skills coupled with improved education and performance evaluation could help to develop a pool of skilled specialist managers, in line with the recommendations of Agyemang and Castellini (2015:52).

[43] This principle is pervasive as board-level controls forms the basis of the board's accountability to its shareholders.

[44] The acceptability of protest action as a mechanism for demonstrating grievances by the public also means that protest action will be used against companies to address perceived grievances, enabling society as a broad stakeholder to oversee company activity. Currently protest action is more frequently used as part of labour negotiations during the strike season. However, the 2016 #FeesMustFall protest action by some students was a form of protest action against an industry.

Transformation on all levels is important. Seekings and Nattrass (2002:26) state that in a society that depends on wages, transformation requires "an effective educational system, broader access to employment (through job creation) and reforms to the welfare system". For transformation to occur effectively, the basic infrastructure needs to be in place. Grant (2014) highlights the importance of implementing ground-level improvements as protests have been increasing "since 2004, and since 2009 became more violent" with the chief grievances centring on "housing, water and sanitation, political representation and electricity", as well as the high level of unemployment among young people and corruption. The continuing dissatisfaction is a worrying sign as it highlights ineffective practices. Gumede (2015) explains that rent-seeking focuses on accumulating personal wealth quickly and tends not to build companies or encourage industrialisation, which are needed for growth and job creation. In addition, it would be difficult to increase the pool of specialist managers or implement other transformational initiatives in situations where people are still battling to obtain necessities such as access to water. The application of strong corporate governance principles in the private and public sectors of a country is important as it helps to allocate resources efficiently, which is critical in developing countries that need to reduce poverty (Agyemang & Castellini, 2015:54-55).

Increased protest action is used by communities to showcase their level of frustration with unfulfilled political promises (Bhorat *et al.*, 2013a:2). However, the sustained protests also increase the need for continuous transformation and upliftment to reduce the level of unemployment and increase the proportion of economically active people. Aliber (2003:475) summarises the 1994 vision of how the African National Congress (ANC) aimed to reduce poverty by improving "access to water, jobs, land, education and healthcare". To address the Third World challenges, economic policy was largely focused on adapting to the competitiveness of the global market in order to attract FDI to fund economic growth. Growth should in turn lead to improved employment opportunities, coupled with improvements in the infrastructure and a human development programme. Economic development was critical as the transition occurred during "difficult economic conditions"

compounded by increased international competition where trade agreements were used to force developing countries to open their markets to imports (Michie & Padayachee, 1998:624).

The first economic strategy applied was the Reconstruction and Development Programme (RDP). The RDP had the following aim:

> "The RDP integrates growth, development, reconstruction and redistribution into a unified programme. The key to this link is an infrastructural programme that will provide access to modern and effective services like electricity, water, telecommunications, transport, health, education and training for all our people. This programme will both meet basic needs and open previously suppressed economic and human potential in urban and rural areas. In turn, this will lead to an increased output in all sectors of the economy, and by modernising our infrastructure and human resource development, we will also enhance export capacity. Success in linking reconstruction and development is essential if we are to achieve peace and security for all" (O'Malley, [S.a.]).

The RDP was a concept that proved to be challenging to implement. In addition, it was discovered early on that a 3% economic growth rate would not be enough to address the unemployment crisis or improve the level of resources needed to expand social services or allow for an equitable distribution of income and wealth (O'Malley, [S.a.]).

Together with a sharp depreciation in the value of the Rand in 1996, the above realisation led to changes in economic policy in the direction of improved trade liberalisation (Carmody, 2002:258-259). This led to the development of the Growth, Employment and Redistribution (GEAR) programme. In essence GEAR was a conventional neoclassical macroeconomic recipe for economic growth applauded by business for its fiscal restraint and control of inflation and interest rates (Aliber, 2003:475). GEAR aimed at growing the economy at 6% and jobs by

400 000 per year by 2000 and centred on “monetary and fiscal conservatism” to reduce inflation, government spending and the deficit (Michie & Padayachee, 1998:625-627). To assist GEAR, the EE policies were extended by introducing B-BBEE legislation (refer to section 2.3.1) to help address the socio-economic gap (West, 2006:435). However, although GEAR reduced the fiscal deficit its growth was disappointing and instead of creating jobs in the formal sector there were job losses, and instead of fuelling the economy through FDI, there were more capital outflows between 1994 and 2000 with the easing of exchange controls (Aliber, 2003:476).

This led to the reassessment of developmental policy and resulted in the National Development Plan (NDP), which was issued on 15 August 2012 (National Planning Commission RSA, 2012). The NDP built on the following shortcomings:

> “The Commission’s Diagnostic Report, released in June 2011, set out South Africa’s achievements and shortcomings since 1994. It identified a failure to implement policies and an absence of broad partnerships as the main reasons for slow progress, and set out nine primary challenges:
>
> 1. Too few people work
> 2. The quality of school education for black people is poor
> 3. Infrastructure is poorly located, inadequate and under-maintained
> 4. Spatial divides hobble inclusive development
> 5. The economy is unsustainably resource intensive
> 6. The public health system cannot meet demand or sustain quality
> 7. Public services are uneven and often of poor quality
> 8. Corruption levels are high
> 9. South Africa remains a divided society” (National Planning Commission RSA, 2012:15).

The NDP's executive summary "presents a long-term strategy to increase employment and broaden opportunities through education, vocational training and work experience, public employment programmes, health and nutrition, public transport and access to information" (National Planning Commission RSA, 2012). In essence the NDP has maintained the principle that increased economic growth will result in more job opportunities which will in turn help to uplift the poor. Hassen (2014) cautions that growth at an average rate of 7% would have to be achieved to reach the NDP goal of reducing unemployment to 6% by 2030, and that so far attempts to grow the economy have "failed to widen access to economic opportunities for the poor".

The various economic policies implemented by the ANC through the RDP, GEAR and the NDP led to record levels of positive economic growth with an annualised real economic growth rate in real GDP of 3.28% for the period 1994-2012, with 2005-2007 achieving rates exceeding 5% (Bhorat *et al.*, 2013a:3). However, this was not matched by increased employment opportunities. Key economic data showed a slowing of economic growth under the NDP, an increased unemployment rate, increased public debt, a deteriorating exchange rate and a rising interest rate. These are highlighted in Table 2-5.

The underperforming economic data are warning signals that the NDP's implementation is unlikely to achieve its objectives and that the root causes need to be corrected to get South Africa back on track. Poor economic performance has a ripple impact on businesses and the available pool of talented specialist managers who have scarce skills and can follow more lucrative offerings. Following a Keynesian-type strategy to grow the economy through public spending is also unsustainable in the long-term due to its impact on public debt. Public debt has been increasing steadily, as Table 2-5 shows.

Table 2-5 South Africa Economic Data

	2011	2012	2013	2014	2015
Population (million)	51.6	52.3	53.2	54	54.9
GDP per capita (USD)	8,66	7,62	6,698	6,608	5,994
Economic Growth (GDP, annual variation in %)	3.2	2.2	2.2	1.6	1.3
Unemployment Rate	24.8	24.9	24.7	25.1	25.4
Public Debt (% of GDP)	38.2	40.9	44.2	47.1	50.1
Inflation Rate (CPI, annual variation in %)	5	5.7	5.8	6.1	4.6
Policy Interest Rate (%)	5.5	5	5	5.75	6.25
Exchange Rate (vs USD)	8.07	8.48	10.47	11.57	15.5

(Focus Economics, 2016)

Unfortunately, the end of apartheid did not translate into improved growth with reduced unemployment. Carmody (2002:256) noted that "internal economic conditions, external competition and capital flows" resulted in "deepening economic dualism and marginalization", worsening the job crisis. In the more than two decades of democracy "[e]conomic growth has been volatile" and while "inequalities in public services have been reduced, income inequality has increased, and poverty levels have remained stagnant" (Bhorat *et al.*, 2013a:2). Poor transformation has led to calls for increased socioeconomic transformation despite labour-focused legislative changes which have included employment equity and B-BBEE (Andreasson, 2011b:655). The legislative efforts to address past imbalances are identified by Esser and Dekker (2008:157) as culminating in the Labour Relations Act, the Promotion of Access to Information Act, and the B-BBEE Act, but transformation remains a challenge.

To address the increased social pressures, one of the methods used by the Companies Act to ensure that ethical social considerations (like transformation) are given their rightful place is the requirement in section 72 (RSA, 2008a) that a Social and Ethics (S&E) board committee should be established. Transformational objectives can be addressed by growing companies to create more employment,

thereby contributing to social upliftment by addressing the unemployment challenges.

2.4.3 Unemployment

After the 1994 change in government, sweeping changes were implemented to transform South African society and these resulted in an altered "social, political and economic" environment (Alessandri *et al.*, 2011:231). The main mechanism for transformation was the passage of legislation which resulted in the encouragement of more democratic labour practices via the Labour Relations Act, while the Basic Conditions of Employment Act empowered the minister to set minimum terms or conditions of employment, including minimum wages in specific sectors (RSA, 1995; RSA, 1997).

The Labour Relations Act established worker rights and included mechanisms to encourage labour stability by establishing a dispute resolution process through negotiation, in order to reduce the prevalence of labour confrontations (Michie & Padayachee, 1998). From an economic supply and demand perspective the question could be asked: if labour relations are subjected to more control and basic conditions, including minimum wages, are legislated, would this influence the demand for labour? The introduction of a minimum basic wage in some sectors did result in real wage increases (Bhorat, Kanbur & Mayet, 2013b:23). However, especially in the agricultural sector the introduction of basic conditions of employment resulted in a 17% increase in wages, with reduced total employment (Bhorat, Kanbur & Stanwix, 2014:1402). It is possible that the phenomenon of jobless growth (Aliber, 2003:476) could be a consequence of labour transformation, increasing real wages while reducing the total demand for labour. Given the labour union practice of using an annual "strike season" in their wage negotiations (Molefe, 2011), the move by business towards higher paid and better skilled labour in order to remain competitive is not unexpected. Carmody (2002:269) states that the job losses could also be due to the "hassle factor attributed to excessive labour regulation". This is evident from the poor GCI rating (Table 2-6) for labour competitiveness, which shows poor labour cooperation and limited

wage flexibility with uncompetitive hiring and firing practices stemming from excessive labour legislation and powerful unions.

Table 2-6 GCI labour competitiveness		
GCI index factor	**GCI rating for 2012-2013**	**GCI rating for 2016-2017**
Cooperation in labour-employer relations	144/144	138/138
Flexibility of wage determination	140/144	135/138
Hiring and firing practices	143/144	135/138
(WEF, 2012-2013; WEF, 2016-2017)		

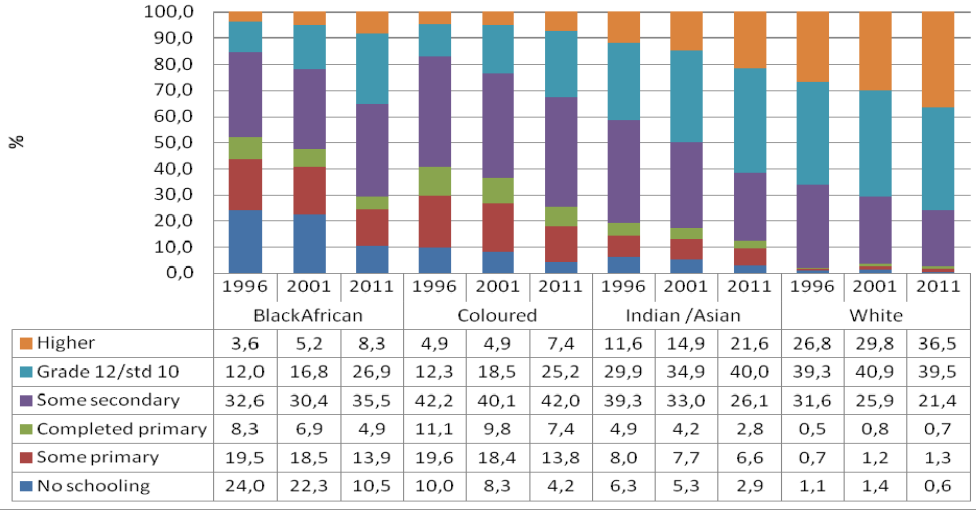
To encourage transformation, extreme transformational economic interventions were introduced in the form of Black Economic Empowerment (BEE) followed by B-BBEE. The process started with the promotion of "black people into positions of greater responsibility in the economy [including board-level], in the public and private sector" and moved on to the "transfer of ownership of economic assets to black South Africans" (Bhorat *et al.*, 2013a:14). Initially BEE involved companies selling equity to "black empowerment groups or other black investors" to diversify ownership. This resulted in 834 completed deals to the value of R140.83 billion between 1993 and 2005 (Alessandri *et al.*, 2011:232). BEE was an initial transformational success as the proportion of shares held by black economic empowerment companies changed from 0.5% to almost 20% between 1995 and 1998. However, these purchases were funded by debt and this resulted in financial difficulties when the interest rate increased to 25% after the Asian crises (Carmody, 2002:264-265). The main concern with BEE deals was that only a small proportion of the black population were benefiting (Alessandri *et al.*, 2011:233).

BEE deals were also an opportunity for companies to signal their social commitment and the use of B-BBEE certificates forms a key part of most tenders (Drake, 2016). The application of BEE principles was clearly useful in helping companies to grow. Growing the economy to grow job opportunities did result in a

0.69 % increase in jobs for every 1% increase in GDP between 2000 and 2008 (Bhorat *et al.*, 2013a:4). Efforts to create employment were severely impacted by the global financial crises that led to a decrease of 0.16% in employment for each 1% increase in GDP, thereby resulting in the retention of the high unemployment rate (Bhorat *et al.*, 2013a:4-5). South Africa found it difficult to improve employment after the financial crises and the unemployment rate worsened slightly between January/March of 2015 and 2016 from 26.4% to 26.7% but was an improvement on the 29.8% recorded in the 2011 census (Statistics South Africa, 2012:49; Statistics South Africa, 2016a:iv).

The variation in the labour participation rate in the demographics (Table 2-3) could be an indication that the transformational process has not been sufficiently effective at an educational level. In Figure 2-5 South African statistics show that educational factors improved slowly between 1996 and 2011, with a general increase in the percentage of learners up to the age of 15 years who attended educational institutions between 1996 and 2011. This shows the impact of free education up to grade 9 given that 92.7% of learners used government education (Statistics South Africa, 2012:31).

Figure 2-5 Highest level of education attained amongst persons aged 20 years and older by population group: Censuses 1996, 2001 and 2011



	1996	2001	2011	1996	2001	2011	1996	2001	2011	1996	2001	2011
	BlackAfrican			Coloured			Indian /Asian			White		
Higher	3,6	5,2	8,3	4,9	4,9	7,4	11,6	14,9	21,6	26,8	29,8	36,5
Grade 12/std 10	12,0	16,8	26,9	12,3	18,5	25,2	29,9	34,9	40,0	39,3	40,9	39,5
Some secondary	32,6	30,4	35,5	42,2	40,1	42,0	39,3	33,0	26,1	31,6	25,9	21,4
Completed primary	8,3	6,9	4,9	11,1	9,8	7,4	4,9	4,2	2,8	0,5	0,8	0,7
Some primary	19,5	18,5	13,9	19,6	18,4	13,8	8,0	7,7	6,6	0,7	1,2	1,3
No schooling	24,0	22,3	10,5	10,0	8,3	4,2	6,3	5,3	2,9	1,1	1,4	0,6

(Statistics South Africa, 2012:33)

The educational disparity at the higher education level has contributed to nationwide protest action by students calling for free tertiary education for all, also referred to as the #FeesMustFall campaign (Pather, 2016). The recourse to public activism in areas where South Arica is lagging behind is possibly an indication of the level of frustration experienced by ordinary people regarding the pace and lack of effectiveness of some interventions. However, the effective and efficient use of educational resources might be a concern as the educational sector attracts considerable funding via the government budget with R189.5 billion which was allocated to basic education and R56.6 billion to post-school education and training in the 2014-2015 budget (PwC, 2015). The education challenge has skills implications for companies in terms of identifying both suitably skilled workers and suitably skilled board members. In turn companies benefit from communities with higher levels of education and employment as this can increase their stakeholder pool.

Concern around the ability of education to assist with transformation goals and contribute to the competitiveness of the country is highlighted by the GCI. An *inadequately educated workforce* was listed as the most problematic factor in 2012-2013, followed by *restrictive labour regulations* (WEF, 2012-2013:324). In the 2016-2017 GCI report the top problematic factors were *inefficient government bureaucracy, restrictive labour regulations* and an *inadequately educated workforce* (WEF, 2016-2017:324). Table 2-7 shows that educational factors remain improvement areas.

Table 2-7 GCI for educational areas

GCI index factor	**GCI rating for 2012-2013**	**GCI rating for 2016-2017**
Secondary education enrolment	53/144	67/138
Tertiary education enrolment	101/144	99/138
Quality of the educational system	140/144	134/138
Quality of math and science education	143/144	138/138

(WEF, 2012-2013; WEF, 2016-2017)

The competitiveness of the quality of secondary education and maths and science education deteriorated, which is a concern as poor secondary education reduces the likelihood of tertiary education compounding the transformation agenda. Unfortunately "South Africa remains a country where poverty is declining slowly and inequality is extremely high" (Bhorat *et al.,* 2013a:13). Developing countries need to plan to transform towards a more developed state. However, inefficiencies in the transformational process coupled with the misuse of resources and corruption are major threats and are discussed in section 2.4.4.

2.4.4 Corruption

In recent years, South Africa maintained a corruption index rating[45] of between 42 and 44 for the 2012-2014 period (Transparency International, [S.a.]) indicating continuing corrupt activities despite the strong legal systems in place. Continued corruption is a concern and a damper on economic growth. As corruption signals a siphoning of resources away from developmental goals it is not surprising that the unemployment rate remains around 25% (Van der Berg & Van Broekhuizen, 2012:11). In addition, corruption is not a victimless crime as the siphoning of resources tends to result in reduced resources for service delivery. Although "effective rule of law reduces corruption" and has helped to improve South Africa's corruption score in the World Justice Project (WJP) *Role of Law Index 2015*, more still needs to be done to curtail corruption (WJP, 2016:21).[46]

Corruption is more rampant in the public sector in South Africa, resulting in the "breakdowns in governance" integral in fraud and corruption prevention (Powell, O'Donovan, Ayele & Chigwata, 2014:5). As money was siphoned away from the operational requirements, service delivery deteriorated and this resulted in

[45] A corruption score of 43 indicate endemic corruption in a country's public sector (Transparency International, [S.a.]).

[46] Claims of "state capture" since the latter part of 2016 with widespread allegations of corruption by state owned companies (SOCs) coupled with political uncertainty led to the downgrade of the local currency to junk status in 2017.

service delivery protests. Grant (2014) says that service delivery protests have been increasing since 2004 with an escalation to more violent protests after 2009 and have now become an endemic “feature of the national landscape” (Bernstein, 2014:21).

Corruption also occurred in the private sector, where the most prominent example has been the corruption in the South African construction industry (Bowen, Edwards & Cattell, 2012). In addition to being illegal, corruption is also against the ethical leadership principles used in South African corporate governance. Wanyama *et al.* (2009:159) note that corruption hampers efforts to improve governance practices and recommend the use of strong enforcement mechanisms to counter corruption. Fortunately, South Africa has strong regulatory and legal systems, and this has resulted in several corrective measures. One example is the power of the competition commission to investigate and penalise uncompetitive behaviour. Despite the warning signs of uncompetitive behaviour in the construction industry identified by Bowen, Akintoye, Pearl and Edwards (2007), prominent companies in the industry were fined R1.46 billion for collusive tendering related to the 2010 soccer world cup stadiums (Greve, 2013). Thus, if the board is to be an effective governance mechanism it is important to encourage ethical and legal business practices and discourage illegal practices. The latter can be enforced by the use of a whistle-blowing hotline to report unethical and illegal behaviour given the protection of whistle-blowers in section 159 of the Companies Act (RSA, 2008a).

2.5 Summary of the First and Third World elements

Yoshikawa and Resheed (2009:254) state that national governance systems consist of a combination of laws and regulation, coupled with political, economic and societal constraints that influence the governance and control options of boards. South Africa uses a unitary board with a hybrid governance model. The strength of the South African position lies in a strong legislative, regulatory and market-driven economy that assists boards to guide companies from isolation to a more

competitive environment. However, the strong level of legislation and regulation also demand increased accountability of boards with a coupled increased liability. Given the changed legislative environment the study proposes that boards would act with increase diligence and rigour to comply with the requirements and reduce the likelihood of possible liability claims. Boards need to ensure that companies are directed and controlled in a manner that ensures compliance with the legal and governance framework to maximise the ability of the market to attract funding for growth.

The main changes that the 2008 Companies Act brought forth that impact boards relate to the increased governance requirements, the establishment of statutory S&E and audit committees and the importance of independent oversight by the audit committee. In addition, King III also require boards to apply ethical leadership principles, use independent board members to monitor the CEO and the board, separate the duties of the CEO and CFO, encourage independence and tacit knowledge with a third of the non-executive directors retiring every year to encourage renewal and to use performance-based remuneration for executive directors over the short- and long-term to reduce goal divergence.

Despite the use of First World elements to help transform and improve Third World elements as described above, Bhorat *et al.* (2013a:13) sum up the situation by stating that "South Africa remains a country where poverty is declining slowly, inequality is extremely high". Although these challenges need to be addressed through clear political policies, boards, through the companies they control, can contribute to transforming society in line with ubuntu. Contributing to the transformation of South African society is not selfless as a more economic active transformed society improve the labour, customers and shareholders pool.

The Third World elements complicate South African governance options available to boards as societal poverty and inequality negatively influence the broader economic environment and the pool of customers, employees and board members. The development of a unique South African governance model linked to

ubuntu can be leveraged to help to address inequality in a limited manner. Boards can use ethical leadership to guide the enterprises of their companies in a manner that takes cognisance of societal challenges and stakeholders in order to ensure sustainable business practices and thereby maximise firm value in the long run and therefore also maximising shareholder value.

In the South African environment, corporate governance and the board as a governance mechanism can help a company to control and direct its business in a manner that accommodates both worlds. Businesses cannot be successful over the long-term in an impoverished society as activism will continue to have a negative impact on the broader business environment and can impact any industry with little warning.

This chapter focused on describing the strengths of the First World elements and the challenges of the Third World elements that have caused South Africa to sculpt a hybrid governance system to help boards to continue to guide their companies in a more regulated economic environment with social developmental challenges. Chapter 3 describes the historical development of the agency theory with local relevance.

CHAPTER 3: AGENCY THEORY

3.1 Introduction

Chapter 2 discusses the contextual setting of this study, which focuses on the board as a governance mechanism in South Africa given the challenges posed by the Third World elements and the advantages offered by the First World elements. It also summarises South African studies on corporate governance (Appendix 10) and local board-related studies in Table 2-2. The objective of this chapter is to focus on the historical development of agency theory highlighting its current relevance in South Africa. Agency theory forms the theoretical lens used in this study.

Kiser (1999:147) describes an agency relationship as the delegation of authority by a "principal" to an "agent" for specific services. This delegation of authority occurs when the shareholders appoint the board to manage the affairs of the company as per the requirements of section 68 of the 2008 Companies Act (RSA, 2008a). In the context of agency theory, agency cost refers to the cost of aligning the goals of the board to the goals of the shareholders. Engelen (2015:928) sums up agency cost as the cost that "arise[s] from a misalignment of the interest of management and shareholders as well as conflicting interests of dominant and minority investors".

This study uses an agency theory perspective to assess the relationship between the board as a governance mechanism and firm value, in a more regulated developmental environment. The study uses companies on the SRI index as this index represents relatively large listed companies that tend to follow transparent disclosure practices. Prior studies on the SRI index focused on social or sustainable objectives (Heese, 2005; Sonnenberg & Hamann, 2006; Herringer *et al.*, 2009; Maubane *et al.*, 2014). Following an agency theory perspective to investigate the board as a governance mechanism using the SRI index is therefore a relatively new

line of research in South Africa.[47] The sustained use of agency theory in recent studies (Muniandy & Hillier, 2015:111; Pepper & Gore, 2015; Rashid, 2015; Rispel *et al.*, 2015; Mans-Kemp *et al.*, 2016) shows that it remains a popular research theory.

There is a profusion of available literature debating the influence of agency theory on firms since its development in the previous century. This chapter begins with the historical development and key assumptions of agency theory using seminal sources and expands on the development to show the current relevance of agency theory in a South African context.

3.2 Background to agency theory

From the discussions in section 1.7, agency theory can be summarised as the use of mechanisms by both parties in an agency relationship where there is separation of ownership and control in order to reduce goal divergence by minimising agency cost (Jensen & Meckling, 1976:308). As agency theory is based on the assumption that the parties involved will act as self-interested utility maximisers (Clarke, 2004:5), its theoretical underpinning helps to address goal divergence problems by using controls to achieve goal alignment in a manner that minimises agency cost. The challenge of utility or self-interest maximisation can lead to an increased risk of goal divergence and moral hazard, where the divergent parties might not act in good faith or might act against the principles previously agreed upon to maximise their own benefit. Goal divergence is a "feature of all agency relationships"; once power is delegated, controlling the agent becomes difficult and agency problems or goal divergence emerge (Kiser, 1999:146). From the above, the key assumptions include separation of ownership and control which forms the foundation of the agency relationship and the maximisation of self-interest which in turn leads to goal divergence. The increased risk of goal

[47] Prior corporate governance studies that focused on the Top 100 or other large companies did include companies on the SRI index. However, they did not differentiate in the interpretation or analysis of their results between companies that were on the SRI index and those that were not.

divergence can be reduced through controls such as legislative or contractual bonding or monitoring to reduce the agency cost associated with goal divergence. Jensen and Meckling (1976:308) say that monitoring and bonding are the two main control methods available to the board to control the agency problem. Chapters 4 and 5 contain a more detailed discussion of the control mechanisms available to the board to reduce agency cost.

The development of agency theory and the use of agency cost to control goal divergence are discussed in section 3.4. This is preceded by a discussion on agency theory assumptions (section 3.3), including the maximisation of self-interest (section 3.3.1), followed by the separation of ownership and control (section 3.3.2), controlling (section 3.3.3), and goal divergence (section 3.3.4). Although this chapter focuses on the historical development of agency theory, it is linked to the current South African context where relevant.

3.3 Agency theory assumptions

Agency theory rests on two main assumptions, namely separation of ownership and control and utility maximisation or maximisation of self-interest. The combined impact of these assumptions has led to goal divergence, also referred to as the agency problem. The separation of ownership and control is discussed against the backdrop of the historical development of enterprises, starting with the maximisation of self-interest.

3.3.1 Maximisation of self-interest

The concept of an economic man was developed to enhance the general understanding of the economic environment in the 19th century. Berle and Means (1933:2) explain that the typical "business unit of the 19th century was owned by individuals or small groups; was managed by them or their appointees; and was, in the main, limited in size by the personal wealth of the individuals in control." The economic man is defined as "an imaginary individual created in classical economics

and conceived of as behaving rationally, regularly, and predictably in his economic activities with motives that are egoistic, acquisitive, and short-term in outlook" (Merrian-Webster, [S.a.]: s.v. economic man). The assumption of self-interest through utility maximisation on which agency theory is based is implicit in this definition. Clarke (2004:5) notes that agency theory assumes self-interest and the use of the efficient market theory, as part of the solution to the agency theory problem. Complete market information is, however, not always possible. The result is information asymmetry problems as the board has better information on the performance of the company and their ability to manage than the shareholders. Adam Smith describes the interdependence of man and his self-interest in trade in the following terms:

> "… man has almost constant occasion for help of his brethren, and it is in vain for him to expect it from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favour, and shew them that it is for their own advantage to do for him what he requires of them." (Smith, 1776/2003:23).

Although the principle of self-interest has been criticised and debated in the literature, it still plays an important role (Jensen, 1994b; Mihret, 2014). The capitalist system relied on the self-interest of the economic man or entrepreneur to maximise the economically efficient manner in which resources are used to maximise profit, subject only to the constraints of supply, demand and competition (Berle & Means, 1933:8). This description is an oversimplification as it ignores the influence of societal values (like ethical leadership, or religious values) as well as legal limitations acting as natural constraints. Self-interested behaviour is still part of today's organisational culture, as Gotsis and Kortezi (2011:450) mention that people use organisational politics "to enhance or secure self-interest, either at the individual or at the group level". In addition, Healy and Palepu (2001:406) state that the "demand for financial reporting and disclosure arises from information asymmetry and agency conflicts between [executive directors] and outside investors" to counter self-interest maximisation and moral hazards through transparency. The focus on utility maximising or self-interest of the directors as

executive managers versus the self-interest or utility maximising of the shareholders as owners in a company is the reason why the separation of ownership and control creates challenges or goal alignment problems.

The question is whether or not current practices still support the assumption of self-interest. Continuous research into governance mechanisms and the push for improved mechanisms after corporate failures is evidence of an inability to fully address goal divergence problems on both a global and a local level. In 2007, the average American earned approximately $34 000 per annum, whereas the CEO of Countrywide Financial earned $102.8 million for the year but, slightly more than a year later, the company needed to be rescued during the fallout from the global financial crisis (Ferguson, 2009:1-3). This disparity sounded a warning that excessive remuneration may have a detrimental influence on the long-term survival of a company. Naidoo (2009:148) refers to the cost of excessive remuneration that signifies the maximisation of self-interest as top executives of failed USA companies amassed over $3.3 billion in the months before liquidation, wiping billions off shareholder value with a loss of over 100 000 jobs, while in the United Kingdom (UK), the top ten directors of companies that subsequently failed collectively earned more than £80 million despite a sharp decline in share prices a year before the companies were liquidated.

There are many South African examples criticising high executive remuneration in the media (Prophet, 2013; Lamprecht, 2014; Rossouw, 2015), suggesting a general concern that executive directors might be manipulating remuneration to maximise their self-interest. The above examples may indicate the continued existence of the maximisation of self-interest that needs to be addressed on an ongoing basis. Tullberg (2013:128) says that recent corporate failures and scandals show that executives have the ability to "favour their self-interest over the interests of the shareholders". A current example is Steinhoff, which lost extensive market share on claims of accounting irregularities[48] (Bowker, 2017).

[48] As the detail on the accounting irregularities are still under investigation this study does not delve deeper into the Steinhoff debacle.

The practice of manipulating reported results (information asymmetry) to maximise self-interest is not a new concept. Watts and Zimmerman (1979:277) describe instances of misuse of management compensation schemes in the 19th century, where management compensation was linked to operating cash flow (then viewed as profit) and executives reduced expenditure on repairs and maintenance to increase cash flow, thereby increasing their remuneration while eroding the value of the company or firm.

Unfortunately, the risk that critical expenses may be cut remains. Poor maintenance led to widespread electricity load shedding[49] in South Africa, despite the record salaries paid to top executives of the electricity supplier for the 2014 financial year (SAPA, 2014b; Nicolaides, 2015). While the average annual household income in South Africa per the 2011 census was R103 204 (Statistics South Africa, 2012:41), the median total guaranteed pay for midsize listed companies' CEOs ranged from R3.87 to R4.57 million in 2012 (PwC, 2012:34-60). These differences are not as dramatic as those in the USA. However, the difference shows the disparity between the guaranteed pay of a top executive in comparison with the average household income recorded in the 2011 census. Thus, even where the maximisation of self-interest may be unconstrained, societal values and the need for a fairer transformed society contribute to the tension in the management and control of agency cost in South Africa.

In addition to the maximisation of self-interest, the seminal publications that form the historical origin of the agency theory and management of agency cost assume separation of ownership and control. The challenges caused by the separation of ownership and control were highlighted by the seminal publication by Berle and Means (1933) that focused on separation of ownership and control. This was followed by a publication by Alchian and Demsetz (1972) on the use of contracts in cooperative specialisation and the subsequent identification by Jensen

[49] Load shedding is the practice of withholding electricity supply to pre-determined areas for a period to protect the electricity supply grid in situations where demand exceeds supply.

and Meckling (1976) of the advantages of using contracts and agency cost to manage the separation of ownership from control and the linking of the separation of management from risk bearing to the agency problem with the value of using monitoring and the market for labour, as expounded by Fama (1980). The origin and historical development of the challenges caused by the separation of ownership and control are described in the next section.

3.3.2 Separation of ownership and control

Initially, the economic man or entrepreneur was the provider and owner of the capital used in the business and he used his wealth or capital to generate outputs to maximise his returns through the generation of profit. He was motivated by profits as he was the only person who benefited from the returns he generated by using his wealth; therefore, he was motivated to deploy his capital efficiently. This single motivation changed with the development of corporations or firms. Outside of firms, the price mechanism of the market influences productive business activities using price movements to influence supply and demand, and production and consumption. However, within a firm the price mechanism is not effective and productive business activities are directed by the entrepreneur who coordinates all the factors of production (Coase, 1937:387-388). The changed relationship between the firm and the market led to a number of early studies on the nature of the firm (Coase, 1937) and the emergence of inactive owners (Veblen, 1923). These studies described the firm as the economic organisation of business through the deployment of property interests, the consideration of social classes and the price mechanism of the market.

3.3.2.1 Introduction to separation of ownership and control

The seminal work that helped lay the foundation of agency theory was *The Modern Corporation and Private Property* by Berle and Means (1933) (Cheffins & Bank, 2009:443). According to Berle and Means (1933:3), the development of the modern corporation is attributed to two events. The first emanated from the industrial revolution, which “brought an increasingly large number of workers

directly under a single management" and the second, which became the focus of their book, was the placement of the wealth or capital of many people or shareholders under the same central control that directs labour. In essence, they described the new aspect of the firm or corporation as the "means whereby the wealth of innumerable individuals has been concentrated into huge aggregates and whereby control over this wealth has been surrendered to a unified direction" (Berle & Means, 1933:2). This separation led to goal divergence where executives can govern without constraints (Engelen, 2015:930). Cohen and Uliana (1990:7) note that the separation also makes monitoring more difficult as the actions of the board are not readily observable by shareholders. Goal divergence became possible as the nature of the firm changed from:

- a business organisation in which the owner or entrepreneur was motivated to generate profit using his wealth, resources or property rights to generate income and was the sole beneficiary of the resulting profit; to
- a firm where the providers of the wealth were not able to direct or influence the activities that generated the income and profit from the provided wealth and the people who directed the wealth to generate income and profit were not the beneficiaries of the resulting profit.

Bratton (2001:754-755) notes that the "split in the classical entrepreneurial function came to be seen as a problem", a problem that has never been solved, but uses "a process of accommodation and adjustment between the mass-producing, management-controlled corporation and the wider economy and society" (Berle & Means, 1933:2-3).

Despite the fact that more than eight decades have elapsed since the publication of *The Modern Corporation and Private Property* by Berle and Means (1933), the challenges caused by the separation of ownership and control in companies are still as relevant today as they were when they were initially described in this ground-breaking work. Even in the 21st century Berle and Means's work is still relevant and their contribution is still valued, as the problems caused by the separation of ownership from control still persist (Bratton, 2001:738; Cheffins &

Bank, 2009:445). The longevity of *The Modern Corporation and Private Property* can be attributed to the well-articulated and strongly empirically and legally supported argument that clearly identifies the problem (Berle & Means, 1933; Bratton, 2001:737-740; Cheffins & Bank, 2009:445 & 449). Indeed, the current relevance of the contribution of Berle and Means is evident from the fact that references to them "show up in discussions of present problems" and not merely in a historical context (Bratton, 2001:738). The continued relevance of goal divergence could also be attributed to the change from industrialisation to the information age and to the knowledge economy, where knowledge is seen as a critical success factor (Van Buren, 2002).

The great importance attached to the availability of transparent information increases the risk of moral hazards and information asymmetry, especially in an agency relationship. A more recent study on the separation of ownership and control in South Africa supports the continued practice of separation of ownership and control as nearly half of the listed companies assessed were managed by the board without a dominant shareholder (Steyn & Stainbank, 2013:8) as a moderating governance mechanism. Thus, the separation of ownership and control is still a feature of the current corporate reality for large listed firms.

3.3.2.2 Challenges caused by separation of ownership and control

The challenges posed by the separation of ownership and control that form the foundation of agency theory came to the fore at the turn of the 20th century with the establishment of corporations that sold their shares widely (Berle & Means, 1933:6). Even in South Africa the challenges caused by the separation of ownership and control centre on establishing moderating controls to enable accountability of the board without sacrificing the necessary agility to enable the company to achieve its objectives (Naidoo, 2009:5). The development of companies with the potential to sell their shares widely helped to attract significant funding with a separation between the new shareholders and the executives of these firms (Berle & Means, 1933:11). Shareholders can be financially unsophisticated individuals as most of the individual savings are managed via sophisticated institutional shareholders like

pension funds. In general, institutional investors form a formidable shareholders' group; however, in South Africa institutional shareholders only became an active monitoring and voting governance mechanism with the establishment of CRISA, which entered into force from 2012 (IoDSA, 2011). Given the separation of shareholders from the board, payments made by the shareholders to the company for their shares act as bonds for contractual payments to other parties such as employees, customers and creditors, thereby funding the purchase of assets for the company. In essence this results in shareholders funding the activities of the company that are directed by specialist managers (the executive directors); shareholders commit their capital, whereas the executive directors commit their labour (Fama & Jensen, 1983a:330).

A historic example from the USA of a firm with a widely held shareholding was the American Telephone and Telegraph company. The company was able to attract wealth from 567 694 shareholders to fund assets of almost $5 billion, while providing employment to 454 000 employees (Berle & Means, 1933:3). This led to a different relationship from the entrepreneurial model, where the owner risks his own wealth or capital but also directs the actions that generate the rewards he receives. This changed relationship is described by Berle and Means as follows:

> "The independent worker who entered the factory became a wage labourer surrendering the direction of his labor to his industrial master. The property owner who invests in a modern corporation so far surrenders his wealth to those in control of the corporation that he has exchanged the position of independent owner for one in which he may become merely a recipient of the wages of capital" (Berle & Means, 1933:3).

This separation of ownership from control brought about a different method of property use in respect of the attraction of capital and accumulation of wealth. It was also responsible for changes in the way economic activity was organised in that larger firms began to use executive directors as specialist managers to direct and control the firm. The executive director who directs the activities and resources of

the firm takes over the role previously played by the entrepreneur. Walsh and Seward (1990:421-422) caution that executive directors as "managers may be tempted to act according to their own interest rather than the owner's interest", highlighting the risk of maximisation of self-interest. Thus, even in a company with a dominant shareholder who has enough voting power to control the company, separation of ownership from control is still a reality that the other shareholders must take into consideration. Local examples of listed companies include Anglo Platinum, where Anglo American has significant controlling interest (about 80% of the ordinary shares) or Verimark, where more than 50% of the ordinary shares are held by a family trust (Profile, 2012).

Cheffins and Bank (2009:445-446) found in their re-examination of the ownership and control of USA corporations that even in the USA there has never been total separation of ownership and control, but that the country has developed more extensive managerial hierarchies with a clearer separation of ownership and management. Berle and Means (1933:8-9) describe the challenge of achieving goal congruence in situations where there is separation of ownership and control as follows:

> "Those who control the destinies of the typical modern corporation own so insignificant a fraction of the company's stock that the returns from running the corporation profitably accrue to them only in a very minor degree. The stockholders, on the other hand, to whom the profits of the corporation go, cannot be motivated by those profits to a more efficient use of property, since they have surrendered all disposition of it to those in control of the enterprise."

The above description might not be as applicable in the 21st century or to South Africa, as the practice of linking board remuneration to firm performance and using share options to help establish goal alignment is the norm, as found by a recent PwC (2012) study. The advantage of separation of duties is that the use of executive directors enables shareholders to invest capital that is managed by a specialist when the shareholders themselves might not have the required specialist financial

knowledge. Bratton (2001:740) states that “separation implies shortfalls of competence and responsibility”, resulting in capital being the only access barrier for shareholders. The separation of duties allows shares to be a transformational vehicle facilitating a broader-based, more representative shareholding as specialist knowledge is not required, thus entrepreneurial competence is not needed for shareholders. In South Africa, B-BBEE deals have been used to develop a broader, more inclusive share ownership among previously disadvantaged groups. In 2015 there were nine B-BBEE schemes trading on the JSE with “about 800 000 direct shareholders”, with “assets to the value of R20 billion” held largely by individuals (Van Zyl, 2015a).

Dispersed shareholdings can lead to shortfalls in responsibility when the shareholders cannot hold the executive directors accountable, enabling them to become the unbridled de facto controllers of the company. Although the board of directors has relative freedom regarding how it manages the company, it is accountable for its choices to the shareholders and non-performing board members can be removed in terms of section 71 of the Companies Act (RSA, 2008a). In addition, King III recommends annual board performance evaluations in Principle 2.22 (IoDSA, 2009a) to help control for competence and responsibility at board-level. Finding people with the appropriate skills set for executive directors in South Africa might be a challenge due to the smaller market and educational inequality noted in chapter 2.

Although there has been progress on educational transformation, the low level of higher education influences the pool of available specialist managers qualified to be executive directors. Swartz and Firer (2005:158) noted that there was a relatively low level of ethnic representation on South African listed boards in 2003. In a subsequent study Mans-Kemp and Viviers (2015a:402-403) found a significant increase in gender (5.5%-16%) and ethical (13%-34%) diversity on boards over the 2002-2012 period on the JSE, indicating that transformational efforts have achieved a degree of success.

Direction and control are the prerogative of executive directors who coordinate and re-contract with all the other stakeholders, initiating and implementing resource allocation decisions and specialist tasks important for the survival of the company (Fama & Jensen, 1983a:330). This prerogative is another reason why it is important to have "checks and balances [controls] in place to keep directors and management accountable" (Naidoo, 2009).

The widespread use of share-based incentives in South Africa (PwC, 2012) might help to encourage goal alignment. It is, however, important for incentives to be designed and monitored to ensure actual goal alignment is achieved. Jensen and Murphy (1990:229-232) found a small increase in the remuneration levels of CEOs in contrast to the increased wealth of the shareholders generated by their direction, highlighting the need to continuously manage goal divergence. An additional concern is the extent to which economic power is becoming concentrated under the guidance of a limited number of executives (Bratton, 2001:752) – a situation described by Berle and Means (1933:18) as "a centripetal attraction which draws wealth together into aggregations of constantly increasing size, at the same time throwing control into the hands of fewer and fewer men".

The concentration of wealth can be a problem in South Africa given the limited size of the market. The South African market is smaller and less diverse as 18 of the 620 companies accounted for 62% of the total market capitalisation at the turn of the century (Rossouw *et al.*, 2002:291). Subsequently Taljaard, Ward and Muller (2015:430) found that only 104 companies were continuously listed in the period 2000 to 2013. The limited size of the market is further evident as in 2012 there were only around 400 companies listed on the JSE's main board.

To complicate matters there is a limited number of local directors available as a PwC (2011:4) study found a shortage of skilled non-executive directors in South Africa. It is also possible that the talent required to excel as a director is rare (Carte, 2011). In addition, immigration controls have helped to "create an artificial shortage of company executives" in South Africa (Prophet, 2013:1).

It is clear from the above discussion that the increased diffusion of shares also represented a change in the role of the owner, from the entrepreneur who owned, funded and managed the business to the shareholder who owned and funded the business but used specialist managers (executives) to manage it – a change from an active to a passive role. In this passive role, the shareholder's liability is limited to the cost of the shares with no responsibility for the management of the firm. Shareholders then rely on the board to increase and manage their wealth. The survival of companies is, on its own, evidence that the advantages of a company as an organisational form outweigh the problems caused by the separation of ownership from control. This can be attributed to the advantage of using shares as an investment vehicle with minimal entrance requirements, where in the case of a company with listed shares the shareholders can sell their shares, thereby enhancing the liquid nature of the shares but also resulting in a dependence on the market to facilitate trading in shares. This situation has led to the development of the market as a control mechanism and given shareholders another mechanism to control the board. The shareholders can simply sell their shares when they disagree with, or are disappointed in, the way the board directs the company.

Although the separation of ownership from control creates challenges, it also has advantages. The main advantage is that it enables companies to attract significantly more funds through enhanced access to the financial markets by issuing shares or other financial instruments. However, the challenge caused by goal divergence that accompany the separation of ownership from control still needs to be managed. Since the publication of *The Modern Corporation and Private Property* by Berle and Means (1933), the fact that the separation of ownership from control produces executives who direct and determine corporate policy and activities and have different goals or agendas from the shareholders as owners and residual risk takers, has been extensively debated (Rediker & Seth, 1995:85; Cheffins & Bank, 2009:444; Lai, Chen & Chen, 2017:190).

The remaining challenge, namely how to manage the situation, has still not been resolved despite the development of various mechanisms or forms of control (Cheffins & Bank, 2009:443-444). Controlling for goal divergence caused by the separation between ownership and control can only be properly done once a clear understanding of the causes of goal divergence between the parties has been achieved and a way has been found to minimise goal divergence using controls.

3.3.3 Controlling for goal divergence caused by the separation between ownership and control

It is necessary to manage the challenges posed by the separation of ownership and control to ensure that companies are managed with clear goals in view. The various controls developed as solutions to goal divergence have resulted in mixed findings as to the actual contribution of individual control measures (Agrawal & Knoeber, 1996:378; Ma, 2009:2031; Afshan *et al.*, 2011:83-85). Other studies produced varying results, depending on the proxy used for firm value (Mans-Kemp, 2014; Ashwin, 2015). The mixed findings indicate a need for further research, especially as stricter regulations can help to control for the possible exploitation of shareholders by opportunistic decisions of the board, that is central to the control of the agency problem (Fama & Jensen, 1983b:312). Problems caused by divergent goals can arise when specific causes of goal divergence result in information asymmetry that could lead to adverse selections generated by moral hazard, risk aversion, the retention of earnings and the timing of cash flows, also referred to as the time horizon.

Contracts can be used to address goal divergence problems by limiting the causes of these problems, using bonding and monitoring to encourage goal congruence as recommended by Jensen and Meckling (1976:308). Unfortunately, it is impossible to fully contract for all deviations and, owing to the associated costs. Monitoring and bonding only facilitate goal congruence up to the point where the marginal cost of monitoring and bonding is equal to the marginal benefit derived from them by the agents and principals (Jensen & Meckling, 1976:312).

Contracts also need to consider that various economic environments such as a loss of liquidity in the market can have a wide ripple impact, as was demonstrated by the financial crises (Acharya & Viswanathan, 2011:100). In addition, the motivation for using contracts stops when the marginal cost of the contract exceeds the marginal benefit, making ideal contracts with total control impossible. It is possible that the flexibility of the incomplete contracts is a key element required to allow for the innovative direction of a company in a manner that can maximise long-term firm value. Before methods of controlling goal divergence problems are discussed, it is important to first consider the causes of goal divergence between the shareholders and the board.

3.3.4 Causes of goal divergence

McColgan (2001:7) lists key problem areas that cause goal divergence or agency problems, namely: moral hazard, earnings retention, risk aversion and the time horizon. These four problem areas are discussed in more detail below[50].

3.3.4.1 Moral hazard

Moral hazard is "where one party is responsible for the interests of another, but has an incentive to put his or her own interests first" (Dowd, 2009:142). Moral hazard can encourage the use of information asymmetry to hide misconduct such as a lack of managerial effort (shirking) or the unnecessary use of perquisites (perks) between people in an agency relationship (McColgan, 2001:8-9). Increased information asymmetry based on reduced disclosure or low levels of transparency is seen by investors as value reducing and results in lower firm values (Hope & Thomas, 2008:623). Dowd (2009:142) highlights the continued importance of moral hazard and states that it "played a central role in the events leading up to the [financial] crisis, and we need to appreciate this role if future reforms are to be well

[50] A summary of the goal divergence problems described in this section was presented under the title "Goal divergence problems in corporate governance*"* at the International Corporate Governance Conference held at the University of the Witwatersrand in Johannesburg on 22-23 October 2012.

designed and prevent further disasters down the line". After the global financial crisis "[m]oral outrage centered on the imbalance between banks (too big to fail) profiting from excessive risk-taking in good times and taxpayers suffering the costs in bad times" (Claassen, 2015:527).

The consumption of perquisites concealed by moral hazard can be significant; for example, the cost of the home security services for Warren Buffet in 2009 was $344 490, while his salary was $100 000 and his total remuneration package as disclosed by Berkshire Hathaway was $519 490 (Stempel, 2010). A South African example of the excessive use of perquisites is the costly security upgrades (±R246 million) to the South African President's private homestead (De Wet, 2015).

Disclosing reliable information is critical because withholding or adapting information on account of moral hazard results in information asymmetry, where the board has access to the best information and the shareholders do not. Information asymmetry can result in shareholders making adverse selections owing to a lack of information as the options they choose are not optimal. The link between moral hazard, information asymmetry and asymmetric information is well established (Bajari, Hong & Khwaja, 2006:2; Hoque, 2014:81-82) and can be found in any contractually managed relationship (Vetter & Karantininis, 2002:271). In addition to the risk of shirking, the maximisation of self-interest can be applied positively and lead to executives' directing the company in line with their personal talents to maximise the benefit to the company, the executive and shareholders.

A disadvantage is that directing a company in a manner that is aligned to the personal talents of an executive can create a situation where the executive seems irreplaceable, thereby increasing the value of the executive to the company as well as the cost of replacing the executive (McColgan, 2001:8). Increased investment that grows a company can also be used by executives to maximise their remuneration, as larger firms are more complex to manage and tend to have higher levels of directors' remuneration (Jensen & Murphy, 1990:255). With an increase in size the complexity of the company increases, enhancing the difficulty of

controlling the actions of employees to prevent shirking and the abuse of perquisites, as well as the difficulty of steering the company to move towards a common goal. McColgan (2001:9) acknowledges that outsiders find it especially difficult to quantify shirking of responsibilities by the board, as shirking is not easily observable by outsiders, which helps to explain why these problems are still unresolved and remain a governance enigma.

A mechanism recommended by King III to improve goal alignment at board-level is the requirements that the board should act in the best interests of the company (Principle 2.14), that the performance of the board and the board committees should be evaluated annually (Principle 2.22), that there should be a power balance at board-level (Principle 2.18), with oversight by independent directors to counter moral hazard problems (IoDSA, 2009b). Moral hazard can take many forms, one of the methods used to fund firm growth is retained earnings. However, this practice should be applied in a cost-beneficial manner as larger companies are more complex to control and direct. It is important to ensure that firm growth decisions are not based on motivations stemming from moral hazard. Earnings retention one of the funders of growth is discussed next.

3.3.4.2 Earnings retention

Earnings retention refers to the amount of earnings retained in the company. The retention of earnings reduces the earnings available for the payment of dividends to the shareholders. The board has the power to determine dividends (section 46) and to fund growth in the company from retained earnings (RSA, 2008a). Internal funding, such as retained earnings, is a less risky source of funding (Koussis, Martzoukos & Trigeorgis, 2017:200) to the company than loans as it does not have set interest rates or repayment terms attached to it. Koussis *et al.* (2017:201) found that retained earnings are more important in situations where there are high finance costs and good growth expectations. However, indiscriminate attempts to grow a company can be damaging to the shareholders if the retained funds are invested inefficiently (in a way that is not cost-beneficial or at a lower rate than the existing investments) and can result in an erosion of the value of the

firm. Larger is not always more valuable and conglomerate mergers have been found to be frequently less profitable after the completion of the acquisition (Mover, 1970:21).

Growing the company will result in a larger company that will be more complex and sophisticated to direct and control and in which it will be more difficult to maintain good lines of communication in order to reduce information asymmetry and prevent moral hazard (Dowd, 2009:148). Thus, larger companies require higher levels of monitoring to help direct their activities. Inadequate monitoring can encourage the consumption of perquisites and shirking, thereby increasing moral hazard (McColgan, 2001:8-9). Executives could, for example, use retained earnings to fund research and development (R&D) projects, which could signal a focus on innovation. However, higher R&D spending do not necessarily translate into product innovation or increased future growth and profitability (Zahra, 1996:1716). The increased size and complexity in larger firms increase the difficulty of using contracts to achieve goal congruence and can lead to the inefficient use of assets (Mover, 1970:21; Jensen, 1994a:4; McColgan, 2001:8). Larger firms are more difficult to control and monitor the flow of funds or the actions of executives. Prior studies found that larger firms tend to pay higher executive remuneration (McColgan, 2001:10; Deschenes, Boubacar, Rojas & Morris, 2015:75). It is also more likely that the greater available liquidity in larger firms makes it easier for executive directors to consume more perquisites.

A possible mechanism for countering moral hazard is ethical training and the development of a company code of ethics to guide conduct within the company and with its stakeholders (Claassen, 2015:528). In South Africa ethical leadership guidance has been included in the governance guidance and specifically in Chapter 1 of King III (IoDSA, 2009b). The use of a code of ethics linked to values by companies are already common practice and mostly disclosed on websites but it is possible that were ethical guidelines are more ceremonially applied, to create the impression of compliance without entrenching the values that such superficial ethical guidance would be ineffective protection against moral hazards.

The use of internal funding such as retained earnings can reduce the risk to a company as it does not need to compete for outside funding. This can help to create a larger company with a bigger powerbase and more prestige (McColgan, 2001:10). The latter can benefit the board but not the shareholders as lower risks tend to yield lower returns.

3.3.4.3 Risk aversion

The global financial crisis resulted in a "growing awareness and need for appropriate risk management techniques and structures within financial organizations" (Aebi, Sabato & Schmid, 2012:3213). Companies that fund assets by means of retained earnings, for example, could select safer assets with lower but steadier returns whereas high leverage firms could invest in riskier assets to help generate returns to fund loans. Thus, different views on risks can have a major impact on goal divergence. The importance of risk disclosure as a mechanism to reduce information asymmetry on goals is highlighted in the International <IR> Framework issued by the International Integrated Reporting Council (IIRC) as "[a]n integrated report identifies the key risks and opportunities that are specific to the organization, including those that relate to the organization's effects on, and the continued availability, quality and affordability of, relevant capitals in the short, medium and long term" (IIRC, 2013:27).

Risk aversion has a bigger influence on the board, as shareholders can use portfolio theory to diversify their share portfolio risk while the executive director's personal risk is closely linked to the performance of the company (Jensen, 1972:358). The executive directors depend on the company for their remuneration and their human capital is tied to the performance of the company (Fama, 1980:291-292). Zahra (1996:1715) recommends using the board to monitor and encourage long-term value creation by executive directors who may be reluctant, on account of risk aversion induced by fear of failure, to encourage enterprise innovation and growth as entrepreneurial failures could damage their reputation and increase the risk of unemployment. McColgan (2001:12) found that executive directors in high-

risk companies prefer to reduce their personal wealth exposure in the company by holding as few shares as possible and that their risk increases when it is difficult to transfer their management skills to another company. The risk attached to transferring senior management skills to other companies increases for the company but is reduced for the director in labour market conditions where there is a shortage of executive directors, as in South Africa. Prophet (2012:7) notes that in South Africa the shortage of highly skilled labour has led to above-inflation increases for high-skilled workers since 2000.

Michelberger (2016:142) found in a recent German study that risk-averse boards produce lower total growth in shareholder returns, which highlights the risk of risk-averse board behaviour for the shareholders. Risk-averse executives can be motivated to reduce their risk exposure by selecting lower risk investments with lower but surer returns for the company or selecting investments that better suit their talents, thereby increasing their personal value as executives. It is also possible to use compensation schemes to increase the willingness of executive directors to take risks, as evidenced by the extremely high bonuses paid to executive directors in the banking industry before the global financial crisis (Dowd, 2009:144; Ferguson, 2009:1-3).

To counter risk-averse management practices, performance-based remuneration can be used to reduce managerial risk aversion and better align the objectives of executives to shareholders (Milidonis & Stathopoulos, 2014:453). IoDSA (2009b: Principle 4.1) states that the "board should be responsible for the governance or risk", and "disclose how it has satisfied itself that risk assessments, responses and interventions are effective". As executive directors can control the cash flow in the company, they can use it to maximise their short-term objectives to the detriment of the long-term value of the company, creating time horizon problems.

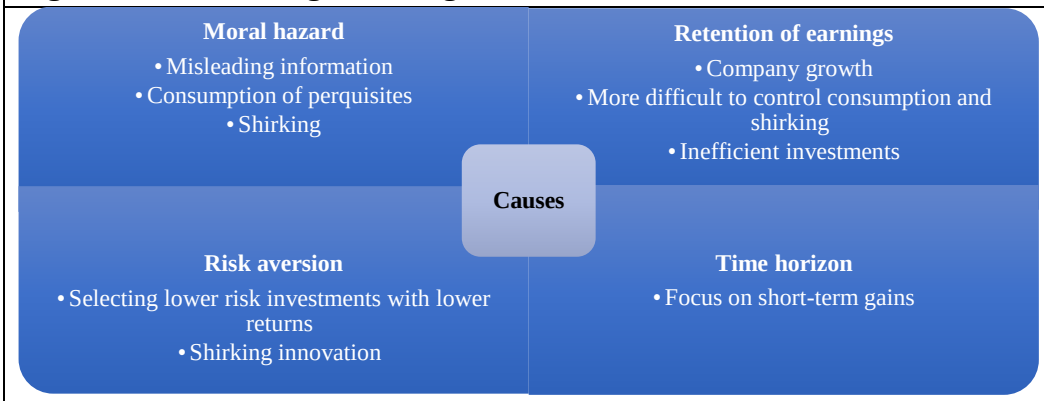
3.3.4.4 Time horizon

Time horizon problems occur when executive directors' focus on short-term goals are linked to their performance management systems, to the detriment of long-term goals or the survival of the company. As people have different time horizons, these different views influence their views on risk. Panno, Pierro and Lauriola (2014:212) found that people "with a wider time horizon are less apt to take risks". Thus, executives in a short- to medium-term contract are more likely to apply higher risk strategies in an attempt to maximise their rewards within the period of their contracts. Executives are more likely to focus on the timing of cash flows during their tenure, while the net present value of all future cash flows is important to shareholders when considering the value of the firm. As agents, the time horizon of the board could also be influenced by the time horizon of the shareholders. Controlling shareholders can monitor the board and are more likely to have a longer time horizon given the extent of their investment in the company. Zahra (1996:1716) notes that long-term controlling shareholders are in a position to encourage more vigilant boards and a commitment to entrepreneurship for continued growth.

The use of contracts with shorter time lines could encourage short-term thinking with increased risk-taking while longer timelines could encourage a longer-term view. Time horizons can also influence shareholders, as an institutional shareholder representing pension funds might be more risk-averse than a day trader. A different time or risk perspective might increase goal alignment problems. This may occur when executive directors are close to retirement, for example, as their focus will be short term. Furthermore, because they are close to retirement the labour market will not have the same controlling influence as it would on younger executives. Weisbach (1988:438) found that in the four quarters before a CEO either resigns or retires, the market-adjusted returns are, on average, lower. The timing of investments and cash flow is also a source of conflict, as shareholders might have a long-term focus while the executives might aim to maximise the short-term returns, increasing the risk of income management or creative accounting to create more information asymmetry (McColgan, 2001:11).

Time horizon problems include the timing of investments and other cash flow considerations such as decisions on the amount of income to retain and the amount to distribute to shareholders. The OECD (2009:10) found that there is still a need to align the boards' interests to the long-term interests of the company. Size also plays a role in the use of cash flow as larger companies tend to have more available cash. Here the South African regulatory guidelines that encourage the use of executive bonuses linked to the long-term goals of shareholders should have a mediating impact, despite the shortage of executives which limits the mediating influence of the labour market (IoDSA, 2009b: Principle 158).

Figure 3-1 Causes of goal divergence



3.3.4.5 Goal divergence

The different causes of goal divergence are summarised in Figure 3-1. Divergent interests or goal divergence makes the separation of ownership and control that exists in companies a critical condition which allows agency problems to occur. The board as the executives of the company do not derive benefits from the same source as the company's shareholders and capital providers, which leads to goal divergence. As a result, it is possible that the board will engage in goal divergent activities that lead to information asymmetry. Recent failures of South African companies like African Bank and Protech Khuthele that required large subsequent write-offs highlight the cost of poor choices based on information asymmetry with a consequent erosion of shareholder wealth (Allix, 2014; Ziady,

2015). This is not new as the existence of goal divergence has traditionally been supported by the significant differences in the wealth attributed to directors in contrast to the increased wealth of shareholders. Jensen and Murphy (1990:225) found in a USA study that the wealth of the chief executive officer (CEO) increases by only $3.25 for each $1000 of increased shareholder wealth.[51]

South African executive director remuneration practices are based on a "pay for performance principle". In 2012 this resulted in the application of a remuneration mix that consisted of a total guaranteed pay component of ±40%, plus short-term incentives of ±30% and long-term incentives of ±30% (PwC, 2012:6). The use of share-based remuneration as a control measure in South Africa is already strongly entrenched as a goal divergence control and has helped to fuel the move towards implementing good governance practices since King I as falling share prices also affected executive directors' shareholdings and options (Malherbe & Segal, 2001:4). The use of performance-based incentives can be significant as average short-term performance incentives per director of R0.781, R3.72 and R8.25 million were observed in small, medium and large companies in 2012 (PwC, 2012:13).

There is, however, a risk that the use of performance-based incentives could encourage excessive risk taking by executive directors to maximise their incentives. In a study on the global financial crisis, Dowd (2009:144) noted that the "absence of any deferred compensation" resulted in a short-term focus by executives with no clawback options to counter the increased moral risks. It is possible that the longer term focus of South African executive remuneration practices can control for moral hazard caused by a short-term view.

The bonus component of executive remuneration is generally a significant portion. An analysis of the variable pay of local CEOs in 2012 and 2013 showed that roughly half of the CEOs received bonuses of 100% or more of their guaranteed

[51] Performing a comparative study under current South African conditions to test for a correlation between the increase in remuneration of a CEO versus the increased shareholders' wealth is an area for future research and is outside the scope of this study.

fixed pay (Lamprecht, 2014), which is an increase on the approximately 60% variable pay identified in the PwC (2012:6) study. The extent of the executive bonuses could result in more information asymmetry and increased agency cost as executive directors safeguard high bonuses in situations where there are no delayed or deferred compensation or clawback options. A more detailed discussion of executive directors' remuneration is included in chapter 5.

Agency theory can be used to address goal divergence problems. More detail on the origin and development of the agency theory, including agency cost, is provided in the next section.

3.4 Agency theory

Agency theory stems from the agency relationship, which is "one of the oldest and commonest codified modes of social interaction"; it is a relationship between two or more parties when the designated agent acts on behalf of the designated principal in a specific "domain of decision problems" (Ross, 1973:134). Section 3.4.1 introduces agency as a concept; this is followed by section 3.4.2, which discusses cooperative production challenges, the development of agency cost (section 3.4.3), and the role of the markets in managing the agency relationship (section 3.4.4). Section 3.4.5 summarises the origin and historical development of agency theory in order to put the lens used by this study into context.

3.4.1 Introduction to agency as a concept

Kiser (1999:147) describes an agency relationship as the delegation of authority by a "principal" to an "agent" for specific services. It is therefore possible for multiple agency relationships to exist, for example, between the shareholder and the director or the employer and the employee. Shavell (1979:55) agrees with this and indicates that various "economic arrangements which involve problems of risk sharing and incentives may be described in terms of the principal and agent relationship". Abor and Biekpe (2006:623) focused their South African study on

the agency relationship in small and medium-sized enterprises (SMEs) and found that there is effective monitoring where there is one institutional blockholder but not where there are more. Agency relationships therefore occur frequently in any relationship and exist at all levels of management in all organisations where cooperative effort is required (Jensen & Meckling, 1976:309; Shapiro, 2005:266). Although it is possible for agency problems to arise in any business relationship, it is more likely to occur in larger companies. This study focuses on the relationship between the shareholders as principals and the board as agents who manage the wealth of the principals for companies on the SRI index, which tend to be relatively large companies.

The agency relationship is defined as "a contract under which one or more persons (the principal) engage another person (the agent) to perform services on their behalf which involve delegating some decision making authority to the agent" (Jensen & Meckling, 1976:308). This implies the application of the contractarianism view that models "governance of large firms with separate ownership and control as incidents of contracting among the rational economic actors to manage towards the efficient use of resources" (Nilakant & Rao, 1994:649; Bratton, 2001:755). Although the use of a contract can help to align divergent interests, it is not the answer as it is impossible to write a perfect contract that takes every possible action of the contracting parties into account (McColgan, 2001:4; Dalton *et al.*, 2007:25). The value of the agency theory in research is highlighted by Walsh and Seward (1990:422), who state that the "agency theory has emerged as an important framework to help researchers understand the nature of this conflict between owners and executives as well as its possible resolution".

The development of the agency theory builds on the contribution of Berle and Means (1933), which focuses on the separation of ownership and control and goes on to consider the challenge posed by cooperative production (Alchian & Demsetz, 1972), the use of agency cost (Jensen & Meckling, 1976) and the capital and labour markets used to address various agency problems (Fama, 1980). These are described in more detail in the following sections.

3.4.2 Cooperative production challenges

With the development of large firms, a need arose for specialisation and cooperative production. Alchian and Demsetz (1972:777) state that owners achieve increased production through cooperative specialisation, resulting in a demand for firms that facilitate such production. In cooperative production it is more difficult to measure the contribution of individual members, as the outcomes have been produced by a team. Cheung (1983:9) explains that the "determination of prices is costly because of the number of transactions, because consumers lack detailed information on the use of each component or contribution to a commodity, because of the difficulty of measuring varied and changing activities, and the need to separate contributions". The challenges of allocating output to the input of cooperative production could be solved by applying a "sharing rule". The principles of applying an equal sharing rule could explain the criticisms levelled against high executive remuneration and the increased focus on the remuneration gap. However, not all people contribute equally in a company, and equal sharing can only be applied in situations where there is homogeneous input (Corchón & Puy, 1998:83-84). As the board members have different roles which is also different to those of the shareholders which complicate goal alignment (Kaufman & Englander, 2005:9).

The lack of detailed information is also a more pervasive problem within the company, as workers have a better knowledge of their contribution and shirking than the board, and the board has better information on the performance and position of the company than the shareholders, highlighting the information asymmetry problem caused by moral hazard. It is easier for individuals to shirk their duty when working as part of a team (Alchian & Demsetz, 1972:780). The same problem is also evident at board-level as the executive directors have more information than the independent directors, but this is also more of a problem in situations where the output cannot easily be verified. Fortunately, "humans have a marked inclination toward cooperation within groups" (Cordes, Richerson, McElreath & Strimling, 2008:126). To encourage cooperation and control for

slacking, performance evaluations can be used as a control mechanism to minimise the risk to the company.

Another compensatory control is monitoring. The possibility of shirking makes it even more important to measure team or cooperative production. Alchian and Demsetz (1972:782) recommend the use of a monitor and suggest that for the monitor to be motivated to be more efficient, the monitor should share in the net earnings or residual rewards. This is often accomplished by using performance-based remuneration. Monitoring is considered to be an acceptable control to help achieve goal alignment in team production and to address the problems caused by shirking (Nilakant & Rao, 1994:650). However, Friebel and Schnedler (2011:2-3) warn that monitoring might not be an effective control as excessive monitoring interventions could result in decreased performance.

By focusing on cooperative production and monitoring within a firm, Alchian and Demsetz (1972) did not directly address the problem caused by the separation of ownership from control, but their system of using monitoring to measure the output of individuals in joint production and to identify shirking is also applicable to the management of the agency relationship. The principle of rewarding the monitor has been used in the development of incentive compensation systems to help align divergent interests (Wibowo & Evans, 2009:96), a system widely used in South Africa. However, in the development of an incentive system, the development of appropriate performance targets is critical (Lamprecht, 2014). Implementing controls, like an incentive system, to achieve goal alignment is not without cost. The result has been the development of agency cost as discussed below.

3.4.3 The development of agency cost

Jensen and Meckling (1976:308) define agency cost as “the sum of:

(1) the monitoring expenditures by the principal
(2) the bonding expenditures by the agent
(3) the residual loss” (Jensen & Meckling, 1976:308).

According to Watts and Zimmerman (1979:276), agency cost "arise[s] because the manager's (the agent's) interest does not necessarily coincide with the interests of shareholders". Thus, agency cost "occur[s] from the misalignment of interests between the firm's executives and the firm's shareholders" (Ibrahim & Samad, 2011:18). Agency cost is therefore the cost of the goal divergence between the board and shareholders that stems from the separation of ownership and control.

Control of the agency problem is considered to be an important survival factor for firms (Fama & Jensen, 1983a:327), and the manner in which firms continue to thrive suggests some success in controlling agency cost. However, recent research into agency cost, especially in developing economies (Singh & Davidson, 2003; Huang, Jiang, Liu & Zhang, 2011; Ibrahim & Samad, 2011; Rashid, 2015), suggests that designing appropriate controls is not straightforward. From the deconstruction of agency cost by Jensen and Meckling (1976), it appears that monitoring and bonding form the key control categories that help to achieve goal congruence.

The contractual nature of the agency relationships, whether formal or informal, provides a means of negotiating expectations between the parties, to help achieve better goal alignment. Jensen and Meckling (1976:311) highlight the importance of using contracts to clarify expectations as companies are "simply one form of *legal fiction which serves as a nexus for contracting relationships and which is also characterized by the existence of divisible residual claims on the assets and cash flows of the organization which can generally be sold without permission of the other contracting individuals*". Negotiating contracts to include controls to allow for goal concurrence can therefore be used as a mechanism to align conflicting objectives of the parties involved. Such contracts with executive directors could include performance-based remuneration such as share options, for improved goal alignment to the shareholders (Abor & Biekpe, 2006:53).

Active capital markets (like the JSE), where shares can be freely traded, reduce the risk to shareholders by enabling them to exit from the relationship at any

time without permission, reducing the need for additional controls and limiting agency costs. This strategy can help to reduce the overall risk to the shareholder, not only by facilitating entrance to and exit from shares, but also by allowing the shareholder to spread his wealth by holding shares in a number of companies, thereby reducing the shareholder's overall risk, in line with the portfolio theory (Markowitz, 1991). The ability to trade unrestrictedly in a company's shares helps to develop the capital market as an external monitoring mechanism using market enabled controls like takeovers (Fama & Jensen, 1983b:313).

In contrast to the above, the board, who actively manage the company, rely on their remuneration as their reward and depend on the success of the company to bolster their reputation and future earning potential, making them more risk-averse as they are more exposed. The executive directors depend on the company for their remuneration and their human capital is tied to the performance of the company (Fama, 1980:291-292). Shapiro (2005:265) describes the risk orientation of the parties to an agency relationship as follows: "although principals are risk neutral … agents are risk averse, because they have placed all their eggs in one basket". The latter risk generalisation might not always be true as some executives could engage in risky initiatives in the hope of higher returns despite being bonded to the company, while shareholders don't always balance their investment risk also in the hope of increased returns.

The continued prominence of agency cost in developing economies especially has been highlighted by recent studies that centred on agency costs (Huang *et al.*, 2011; Ibrahim & Samad, 2011; Rashid, 2015). There is a variety of controls that can be used to help achieve goal congruence, of which the market (JSE) for shares and the market for labour tend to be the most powerful.

Using the market shareholders can reduce their risk by spreading their shareholding among diverse companies. Unfortunately, the reduced risk can lead to inactive or uninvolved shareholders who view their shareholding as an investment and sit back to reap the "wages" of capital. If the shareholders are the beneficiaries

of the growth of the value of the shares as well as the profit, there is little incentive for executives to actively seek new business opportunities for the company or other forms of innovation in the same manner as an entrepreneur would. In addition, the higher risk profile of the executives would further deter them from implementing new, risky business ventures or innovations, as they might further increase their personal risk. Not all new business ventures are successful, and the executives might prefer to use old and trusted methods with lower but surer returns; however, failing to invest in new business ventures or avoiding innovation would have an adverse impact on the ability of the company to increase its value over the long-term and could even threaten its survival. The specification of individual rights during the contract negotiations in an agency relationship helps to ensure that there is clarity regarding how the risks, costs and rewards will be allocated among the parties in the agency relationship (Jensen & Meckling, 1976:307-308). Singh and Davidson (2003:794) have found that "higher managerial ownership significantly and positively influences the corporate asset utilization efficiency", which illustrates the moderating impact of goal congruence through executive shareholding.

As monitoring is performed to assess whether the agent's actions are in line with the expectations of the principal, the monitoring costs that form part of agency cost are similar to the cost of monitoring in cooperative production. Jensen and Meckling (1976:309) say that the "agency costs and their importance to the theory of the firm bear a close relationship to the problem of shirking and monitoring of team production which Alchian and Demsetz (1972) raise in their paper on the theory of the firm".

The monitoring of team production to minimise shirking is not the only form of monitoring required; it is also important to ensure that costs are controlled. Here, the excessive use of company resources (perquisites) by agents needs to be monitored and curtailed. This is acknowledged by prior studies that used asset utilisation as a proxy for shirking and expense ratios as a proxy for excessive perquisites (Singh & Davidson, 2003; Huang *et al.*, 2011; Ibrahim & Samad, 2011;

Rashid, 2015). The benefits or utility that accrue to principals and agents are not only financial, as non-pecuniary aspects also play a role, such as working for, or owning shares in, a large, well-respected company, with a head office that is a landmark building, resulting in utility accruing to the people involved or associated with the company. Jensen and Meckling (1976:312) describe the achievement of the optimal mix of financial and non-financial or non-pecuniary rewards, ignoring taxation, as "when the marginal utility derived from an additional dollar or expenditure (measured net of any productive effects) is equal for each non-pecuniary item and equal to the marginal utility derived from an additional dollar of after-tax purchasing power (wealth)".

The ability of an executive to attract non-pecuniary benefits or utility or consume perquisites increases the agency cost, as it requires additional monitoring. Thus, the consumption of excessive perquisites or the practice of shirking will attract additional monitoring as well as additional expenses caused by the consumed perquisites and cost of monitoring, resulting in lower profitability and a reduced share price. Firms are not limited to a supervisory monitoring role and can use a combination of complex methods such as requiring an audit, implementing control systems and budget restrictions and even aligning the remuneration of the executive more closely with that of the shareholder by using an incentive compensation system (Jensen & Meckling, 1976:323). Watts and Zimmerman (1979:278) note that "audited financial statements are useful devices to monitor" the agreements between the board and shareholders. The value of auditing as a monitoring mechanism is supported by the widespread use of audits before auditing became a legal requirement. Watts and Zimmerman (1983:614) found that audits were already used in the early stages of the "development of business corporations (1200)[52] and evolved gradually into the type of audit required by the first English companies act (1844)".

[52] The year refers to the period in which evidence was found of the audit of early business corporations, followed much later by the introduction of the English Companies Act in 1844.

Not all the agency expenses need to be carried by the owner; some of them can be transferred to the executive as bonding expenses and these could take the form of a contractual guarantee or limitations on the decision-making powers of the executive (Jensen & Meckling, 1976:325). The use of bonds and penalties to control executives is not new – centuries ago, bonding resulted in fines being issued for the breach of an ordinance during the audit of a guild, with the balance of the cash bonds being returned to the retiring executive after the audit (Watts & Zimmerman, 1983:618). In the 17th century, the treasurers of corporations such as the Spanish Company, the Levant Company and the Eastland Company were required to post bonds ranging from £400 to £1000 – substantial amounts at the time – as an early method of using bonding to control executives (Watts & Zimmerman, 1983:621). Any agreement with an executive to use fewer perquisites reduces expenses and monitoring costs can lead to increased profits. However, the executive will only give up perquisites if the net effect, because of the reduction in agency cost, increases his total gained utility as well. A prominent local example of a CEO who sacrificed short-term remuneration for share options is the agreement Koos Bekker had with Naspers. In the "17 years that he occupied" the chief executive position "he did not draw a salary or benefits and took stock options as compensation" (Steyn, 2015). This unusual arrangement netted him billions of Rands after his tenure as he developed Naspers into the largest media group outside the USA and China in his tenure (Gundan, 2014).

It is also possible for shareholders to restrict the rights of agents or directors by requiring shareholder approval for the appointment of directors, the auditor, for mergers and new share issues (Fama & Jensen, 1983b:313). This is in line with the Companies Act requirements in South Africa, where legislation is used to bond the options of the board and shareholders (discussed in more detail in section 2.3.1). Thus, the use of monitoring and bonding towards goal alignment results in the use of monitoring controls to manage the agency problem caused by goal divergence. Corporate control focuses on identifying and evaluating how the agency problem is controlled and managed in a manner that ensures that the direction and control of

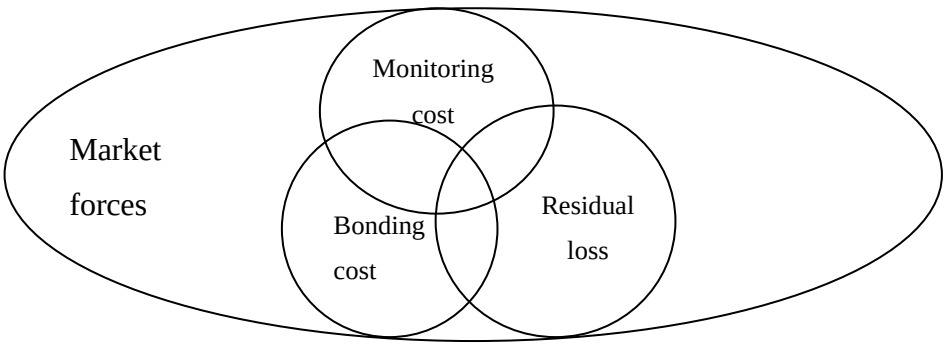
the company are aligned with the interests of its shareholders. This is discussed in detail in chapter 4.

Monitoring is used to manage shirking and the excessive use of perquisites and bonding is used to reduce monitoring costs by establishing contractual guarantees and limiting the decision-making powers of executives. A summary of the above discussion on agency cost considerations that influence corporate control is presented in Table 3-1.

Table 3-1 Agency cost aspects that influence corporate control
Use of monitoring to reduce shirking
Use of monitoring to reduce the use of perquisites that could increase costs
Use of contractual bonding (like remuneration agreements) to reduce monitoring costs
Use of bonding to limit decision-making powers

It is evident from the above that goal divergence can be managed through controls by directing the labour of the board towards a common goal. The controlling of goal divergence is also discussed in more detail in chapter 4, which deals with corporate control, while directing is discussed in more detail in chapter 5, which deals with managerial labour. Figure 3-2 is a graphical representation of the interaction of the three elements that make up agency cost within the overall control of the market. The market includes the capital market as well as the labour market.

Figure 3-2 Agency cost and market forces



A more detailed analysis of the use of the markets to manage the agency problem is provided in the next section.

3.4.4 The role of the markets

Using monitoring and bonding to reduce agency cost does not always fully reflect the influence of the ultimate control of the markets. The main contribution of Fama (1980:289-292) has been to highlight the split between the management decision-making function (linked to the labour market, section 3.6.4.2) and the risk-bearing function (linked to the share market, section 3.6.4.1). These functions were both previously performed by the entrepreneur. This split also reflects the differences between the principal and the agent in their attitudes to risk, a cause of goal divergence (Nilakant & Rao, 1994:652). The risk-bearing function could use portfolio theory to reduce risk through diversification and use the share market as a control mechanism.

When risk to shareholders' wealth is shared among many firms, it can result in more inactive shareholders who have little interest in overseeing the activities of the firm, resulting in a more efficient allocation of risk but with shareholders who exercise little control (Fama, 1980:290-291 & 293). The split between the functions of risk and management also enables the specialisation of risk and management. Furthermore, Smith (1776/2003:16-17) indicates that increased specialisation through division of labour results in improvements, as "those employed in each particular branch of labour should find out easier and readier methods of performing their own particular work". He does, however, caution that division of labour is limited "by the extent of the market" (Smith, 1776/2003:27), which helps to explain why the separation of ownership from control only became a concern with the increase in size of corporations in a context with limited liability and diffused shareholders. A more detailed discussion on the share and labour markets, and the influence of the markets on agency relationships, is provided in the following sections.

3.4.4.1 Share markets

The JSE as a share market is effective and competitive within the South African context, with a top 5 competitive rating by the WEF out of 114 countries in 2012-2013 and out of 138 countries in 2016-2017 (WEF, 2012-2013; WEF, 2016-2017). A share market acts as a control mechanism by facilitating the trading of shares in three broad areas. The first is by helping individuals who have developed a company over time to liquidate some of their shareholdings. This can free up liquidity so that new investment opportunities can be developed. Secondly, allowing shareholders, especially institutional shareholders, the opportunity to apply portfolio theory to a diversified portfolio of shares reduces their overall risk exposure. Lastly, the JSE facilitates mergers and takeovers of existing companies to improve synergy and increase efficacies.

The regulatory restrictions, coupled with the smaller size of the JSE and the lower level of liquidity in the South African market, result in few big takeovers (discussed in more detail in section 4.2.3) (Armstrong *et al.*, 2005:24; Ntim *et al.*, 2015:199). In addition, regulations limit options through the bonding of merger- and acquisition-related activities or transactions. Anecdotal evidence suggests that takeovers of smaller companies are commonly practised as part of a growth strategy and are a less risky means of acquiring new innovations. In addition to the bonding impact of the JSE listing requirements (JSE, 2010a), mergers and acquisitions are also regulated in Chapter 4 of the Companies Act, in terms of which the required approval of shareholders and the takeover regulation panel acts as a constraint (RSA, 2008a; Douglas, Oppenheim & Gilfillan, 2013). It is also possible for companies to improve liquidity through unbundling or selling assets to refocus the enterprise of the company.

Control mechanisms associated with the JSE are used in the South African share market and act as the final control where shareholders can buy and sell shares in response to the way a company is being managed. Recent examples of the value of selling shares include the sale by Koos Bekker of the bulk of the shares he accumulated as CEO for an estimated R20 billion the year after he retired (Steyn,

2015). Another example is the sale by Cyril Ramaphosa of his shares in Shanduka, an investment company, for an estimated $200 million to Pembani Group to prevent a conflict of interests between his political position and the operations of the company, thereby creating one of Africa's largest black-owned investment groups (Nsehe, 2015).

As a market requires sellers and buyers to be effective, the JSE allows for acquisitions, through mergers and takeovers, in addition to smaller investments made by the broader investing community on a continuous basis. Companies would be interested in merging or acquiring other companies if they consider the assets of the other company to be underperforming and expect to be able to address the reason for the underperformance. An example of a recent large acquisition of a company listed on the JSE is the acquisition of SAB Miller (listed on the LSE and the JSE) by Anheuser-Busch InBev for £79 billion, the biggest deal in British corporate history (Ambrose, 2016). The acquisition of Business Connection (BCX) by Telkom in a R2.6 billion deal is another example (Van Zyl, 2015b). Although hostile takeovers are rare in the South African market, Bidvest, a company that focuses on growing through diversifying its holdings, countered a "Chilean group's $1.2-billion bid for South African drug maker Adcock Ingram" by teaming up with "Community Investment Holdings (CIH) to offer R70 per share to raise its stake to as much as 34.5% of Adcock" in a hostile bid (Motsoeneng, 2013). In 2016 Bidvest unbundled its food services unit (57% of the group's sales) to list it as a separate company on the JSE (Hill, 2016). Such an unbundling can help the new company to refocus its core business activities, using specialisation to improve efficiencies, as well as help improve liquidity in the parent company.

From the above discussion, it can be seen that as a market the JSE can benefit both buyers and sellers of equity instruments irrespective of their position in an agency relationship since the market serves as a control mechanism. In addition to facilitating the buying and selling of equity instruments, the JSE also allows for trading in derivative instruments, which has further risk implications, but this fall outside the scope of this study.

The JSE as a market allows the current shareholders, who form part of an agency relationship, to easily exit from their relationship by simply selling their shares. The easiest way to exit as a board member is to resign. It is also possible for the shareholders to dismiss board members. Anecdotal evidence suggest a preference to pressure executive directors to resign, as evidenced by the resignation of CEOs of underperforming companies like African Bank, PPC and Steinhoff (Hedley & Derby, 2014; Ziady, 2015; Bowker, 2017). However, even when board members resign they can still be held liable for decisions taken and implemented during their tenure and are bonded by the legislative environment applicable to companies. Another limitation on board members is the labour market and its influence on their future employment opportunities as a director, and on the accompanying remuneration. The labour market is discussed in more detail below.

3.4.4.2 Labour market

Markets are influenced by normal economic supply and demand principles. Fama (1980) developed a solution to agency problems using the market, and the labour market, as a control mechanism. The market for labour still plays a role as it influences the availability and cost of executive directors to serve on the board. Managerial labour is discussed in greater detail in chapter 5.

Fama (1980:289) notes that "the literature has moved toward theories that reject the classical model of the firm but assume classical forms of economic behaviour on the part of the agents within the firm", where the "firm is viewed as a set of contracts among factors of production, with each factor motivated by self-interest". This highlights the contractarianism view of managing the agency problem (Nilakant & Rao, 1994:649; Bratton, 2001:755; Rajgopal, Taylor & Venkatachalam, 2012:119). Here the moderating impact of the market can be of assistance, especially for board members who wish to use the labour market to further their careers.

Executive directors are more likely to incur bonding costs in situations where there is an oversupply of suitable executives, and competition makes it difficult to obtain a board position. However, increased regulatory requirements are demanding more from directors and their specialist knowledge may be in short supply, globally as well as in South Africa. Linck, Netter and Yang (2009:3288) found that the additional demands placed on directors by the Sarbanes-Oxley Act resulted in a reduction in the supply of directors "due to the increased workload and risks of being a director". In South Africa a PwC (2011:4) study found that there is still a shortage of skilled non-executive directors, and there is also an overall shortage at the executive management level (Prophet, 2012:7). In addition, Carciumaru (2010:251) found that in South Africa "director liability has in fact increased" and that the courts and society are more willing to hold directors accountable and liable. Specialist managers (executive directors) would be more likely to require a share of the profit in situations where their specialist skills are in high demand, as is the case in a situation where there is a shortage of other competing, qualified executive directors. In South Africa, the use of share-based remuneration as a control is already entrenched for executive directors (Malherbe & Segal, 2001:4). In principle 2.25, paragraph 168, King III recommends the use of performance incentives including share-based incentives to help achieve goal alignment for executive directors' remuneration (IoDSA, 2009b). Scholtz (2009:75) argues that share-based remuneration "as part of executive remuneration should be well managed to enable executive management to create long-term shareholder value", highlighting the goal alignment role of share-based remuneration. Some control measures include delayed remuneration components and clawback options to control for moral hazard and information asymmetry risks.

Overseeing contracts is still a challenge in developing economies as Haron and Akhtaruddin (2013:18) note that "there is an increasing call for the design of [an] incentive compensation scheme that ties executive pay to shareholders' wealth" to counter excessive remuneration, highlighting the continued relevance or need to ensure that executive remuneration is reasonable and performance-based.

Fama and Jensen (1983b:304) found that effective control procedures are critical to prevent agents from taking actions that deviate from the interests of the shareholders. They state that an "effective system for decision control implies… that the control (ratification and monitoring) of decisions is to some extent separate from the management (initiation and implementation) of decisions" (Fama & Jensen, 1983b:304). Here, Fama and Jensen (1983b) allude to the critical importance of the separation of duties between people within a control system – especially between the monitoring of a decision and the implementation thereof – in ensuring that the control system is effective. In situations where a majority shareholder is also an executive director, the risk to the minority shareholders will increase as there is less separation of duties between the residual risk, decision management and decision control functions. This situation would increase the need of the minority shareholders to use independent directors as monitors.

Knowledge considerations are also important, as decision management and control should be allocated to people with the necessary specific knowledge. Fama and Jensen (1983b:308) state that "specific knowledge in complex organizations is diffused among agents, diffusion of decision management can reduce cost by delegating the initiation and implementation of decisions to agents with valuable relevant knowledge", reducing agency cost by "separating management (initiation and implementation) and control (ratification and monitoring) of decisions". Methods that can be used to separate decision management from decision control include the application of decision hierarchies for ratification and monitoring, boards of directors that ratify and monitor the company's most important decisions, including the hiring, firing and compensation of top decision management and incentive structures that encourage mutual monitoring among decision agents (Fama & Jensen, 1983a:332). Separation of decision management is done on board level by differentiating between the roles of executive directors and non-executive directors, whereas the Companies Act make specific provisions for ratification of decisions as discussed in section 2.3.1.2. The need for decision management highlights the challenges caused by information asymmetry, as in situations where

agents have better or more knowledge than the principals, they are more likely to act opportunistically.

Methods of controlling the opportunistic actions of agents include the use of monitoring and hierarchies. In a formal hierarchy, the higher-level agents ratify and monitor the decisions of lower-level agents supported by control processes such as accounting and budgeting. In this case, monitoring makes use of the motivation of internal agents including the board to monitor each other, as the performance of the company is used to judge the value of their human capital in the labour market (Fama & Jensen, 1983b:310).

The use of independent directors as referees is an additional monitoring control. Monitoring using independent directors is a more cost-effective solution when compared to takeovers (Fama, 1980:294). The use of independent directors enables a further split in the internal governance functions performed by the board between ratification and monitoring of decisions and initiation and implementation of the decisions (Fama & Jensen, 1983b:302).

Fama (1980:296) also highlights the use of perquisites and shirking by executives as problems, with the possibility of increased shirking or use of perquisites in situations where there are no performance evaluations or an "[a]ssessment of ex post deviations from the contract". Thus, there seems to be a risk that a lack of performance management can result in shirking and the excessive use of perquisites, which results in a reduction of firm value. The managerial labour market uses the following assumptions to value the influence of shirking and the use of perquisites or consumption:

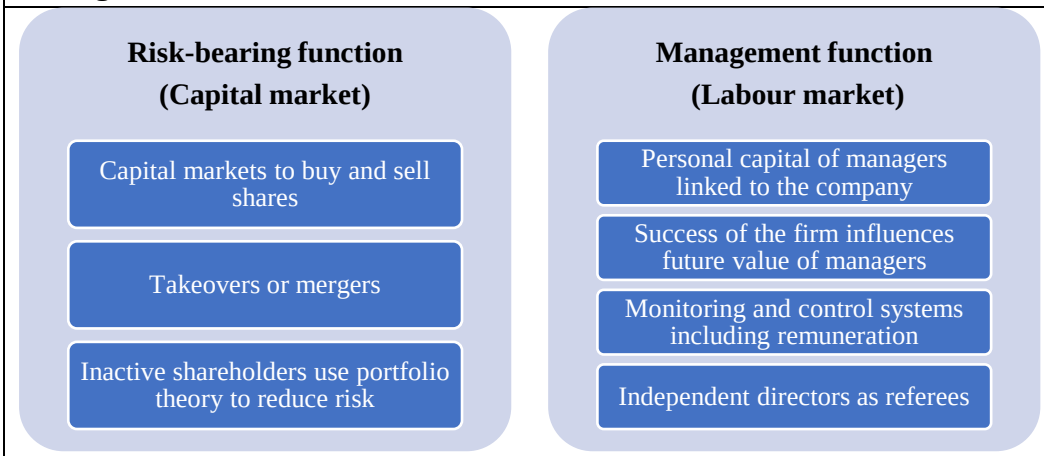
1. As the executive's talents and on-the-job consumption are uncertain, they are imputed by the labour market using information about the current and past performances of the executive;
2. the labour market appropriately uses past information to revise future wages; and

3. the wage revision process is strong enough to resolve incentive problems (Fama, 1980:296-297).

Although the above valuation of the future earnings potential of executives can be done by the labour market, the level of *ex post* balancing in the market can be shifted to the firm. Locally the performance of the board are guided by King III and are discussed in more detail in chapter 5.

A summary of the split between risk-bearing and management functions showing the use of capital and labour markets to help resolve agency problems is given in Figure 3-3, as the markets influence the control options available to boards.

Figure 3-3 Addressing agency problems in the risk-bearing and management functions



3.4.5 Summary of the origin and historical development of the agency theory

The separation of ownership and control reduces the efficiency of the operation of a company and leads to additional monitoring costs to limit shirking and the use of perquisites, thereby increasing the agency cost and reducing the value of the company. Yet, despite all these disadvantages, companies still exist and, during the past eight decades since the publication of Berle and Means (1933), they have not only survived but have grown and flourished. Despite the decrease in efficiency, shareholders are still willing to invest in companies. This could possibly be explained by a lack of alternative investment options or by the superiority of returns from investments in listed shares. One of the advantages of the separation

of ownership and control is that shareholders can reduce their risk by holding a diversified portfolio of shares. Furthermore, they do not need to be involved in the management or monitoring processes as they can rely on boards to effectively and efficiently manage their wealth, despite the disadvantage of the incurred agency cost. Specialised board members are motivated to manage other people's wealth efficiently, as the efficient and effective management of a company can improve the marketability and future earnings potential of the board members as well.

Monitoring and bonding costs are also dependent on the influences of the market and if the shareholders are inactive they cannot be efficient monitors. The shareholders therefore need another monitoring mechanism to help them ensure that the board is focusing on directing the company in a manner that enhances the value of the company and their shareholder wealth. Such a mechanism for monitoring the board can include the labour market or the use of independent directors as specialist monitors. Fama (1980:295) finds that the "viability of the large corporation with diffuse security ownership is better explained in terms of a model where the primary disciplining of executives comes through managerial labor markets, both within and outside the firm, with assistance from the panoply of internal and external monitoring devices that evolved to stimulate the ongoing efficiency of the corporate form, and with the market for outside takeovers providing discipline of last resort". The managerial labour market adjusts the future earnings potential of the board members according to the performance of the firms that used their specialist management skills. This practice may lead to the alignment of the interests of the board with those of the shareholders by board members who want to maximise their reputation and future earnings potential in the market. Even retiring CEO's could be influenced by the market as they adjust to build a future career as a monitor.

To date, there is still no clear-cut solution to agency problems. It is important to acknowledge that the ultimate balancing or correcting of agency problems occurs in the markets. However, the markets should be the last resort. It is clear from the above that the monitoring of the board is one of the most important controls that can be used to ensure that the actions of the board are aligned with the goals of the

shareholders. Monitoring can include oversight and performance evaluation, the appointment of outside or independent directors as referees, audits, outcomes-based incentive systems to align executive directors' remuneration with the goals of the shareholders and the establishment of hierarchical controls with different levels of authority and oversight.

Despite the prominence of the agency theory in prior research, an agency theory perspective is only relevant if the separation of ownership and control and the maximisation of self-interest that underpins the agency theory are still relevant. Thus, the discussion of the historical development of the separation of ownership and control and the development of the agency theory includes references to current practices to show current relevance in South Africa.

3.5 Continued relevance of the challenges caused by the separation of ownership and control

In recent years, there has been an increased focus on the role of the board as a governance mechanism (Yammeesri & Herath, 2010; Kaczmarek, Kimino & Pye, 2012; Muniandy & Hillier, 2015; Muchemwa *et al.*, 2016). This is further evidenced by continued emphasis on the oversight role of independent directors in particular, as well as emphasis on remuneration incentives applicable to executive directors in recent South African legislative and regulatory changes (RSA, 2008a: Sections 66 & 94; IoDSA, 2009a:45-49 & 56-58; IoDSA, 2016: Principles 8 & 14). This increased emphasis became more noticeable globally after the economic fall-out of the global financial crisis of 2008 (Haspeslagh, 2010). After the global financial crisis, the OECD[53] highlighted the "value of a strong and effective regulatory framework and proper supervision" and called for the updating and strengthening of governance and regulations (OECD, 2009:9). This is in line with past calls for enhanced governance that were sounded in the aftermath of the financial disasters or corporate scandals.

[53] Organisation for Economic Co-operation and Development (OECD).

Michelberger (2016:136) explains that the renewal of governance practices to protect shareholders' interest is demonstrated by the continued linking of corporate failures to governance practices. The call for improved supervision and governance is also within the oversight/monitoring role which it is recommended that independent directors should fulfil (refer to chapter 4 for a more detailed discussion on the oversight role of independent directors). The OECD identifies the inability of companies to align the remuneration and incentive systems for executives and directors with the long-term interests of the company and its shareholders as one of the contributory factors to the global financial crisis (OECD, 2009:10). This highlights a problem area as the development of appropriate performance targets to align executive bonuses with firm performance is a challenge in South Africa (Lamprecht, 2014).

Clearly, the practice of aligning executive directors' remuneration with firm performance did not prevent the maximising of self-interest given the continued criticism focused on executive director remuneration (Bronkhorst, 2014). The concern around excessive executive directors' remuneration is not limited to South Africa. Kemper and Martin (2010:229) say that post the 2008 financial crises the "focus on executive compensation" changed from viewing it as a symptom to viewing it as a contributory cause of the crises. Excessive remuneration also calls attention to the freedom of the board to control and direct the operations of a company as they see fit where there is a possible lack of accountability in companies with diverse shareholders (Blair & Stout, 2001:405) to serve as a moderating control.

As South African governance guidelines have been developed proactively, and not re-actively, financial disasters merely feed into the normal improvement cycle and do not prompt a review of the existing regulation or legislation. However, the continued challenge of aligning remuneration and incentive systems indicates that the challenges caused by the separation of ownership from control still exist, given the regular claims of excessive directors' remuneration and an increased

focus on the wage gap between the lowest and highest paid people in a company (Holmes, 2014). In considering the wage gap between executive directors and rank-and-file employees, Bebchuk and Weisbach (2010:946) query whether the high executive remuneration is a labour market consequence based on a small supply of executive directors or a symptom of executive rent seeking. The wage gap has resulted in calls to cap executive salaries following examples in other developing countries like China that limited the wage differential between the lowest and highest paid employee in a state-owned enterprise (SOE) to 1:11 (Rossouw, 2015). Van Niekerk (2016) notes that the guaranteed remuneration together with short-term bonuses of South African executives are around 36 times the remuneration of their employees, which is favourable when compared to international trends of a 50 times ratio.[54]

The practice of criticising executive salaries by adding context and linking their remuneration to that of stakeholders is not limited to criticism by employees but includes criticism by bondholders and society in general. Edcon's CEO was criticised for receiving a basic salary of R12.5 million and a bonus of R7.5 million while asking bondholders to take a loss on their investment (Kew & Bonorchhis, 2015), and Eskom, a state-owned company (SOC) with a monopoly as the sole electricity supplier in South Africa paid executive bonuses while the country was confronted with rising electricity costs and load shedding (SAPA, 2014b).

Arguably the most criticised highly paid CEO in South Africa is Whitey Basson of Shoprite, who attracted attention in 2010 for a total package of R627.6 million that included exercised share options of R594.5 million (Holmes, 2014). This made him the highest paid South African CEO. At the time Shoprite was ranked the 15th largest company in South Africa by market capitalisation (Carte, 2011). In 2016 he again attracted attention with a R49.7 million basic salary along with a R50 million bonus. Despite some institutional shareholders voting against the remuneration policy, it was positively received by the market as the company's

[54] Reported wage gap ratios differ, depending on how the short- and long-term variable pay components of directors have been taken into consideration.

share price rose slightly after the announcement of the bonus (Cameron, 2016). Although the positive reaction of the share price is an indication that the shareholders, on average, are not dissatisfied with the performance of the company under his leadership, the broader South African societal inequality, together with the accompanying social challenges, is emphasised by the wage gap. The same group pays a casual worker R550 per week, and a basic salaried worker earns R2700[55] per month, highlighting the wage gap and the challenges still facing South Africa on a transformational level (Ntongana, 2016).

The bonus of a CEO is generally linked to performance and the way the company was led, the Shopright group did become the number one retailer in South Africa under his leadership of more than 35 years (Carte, 2011; Cameron, 2016). Even if Whitey Basson had declined his R50 million bonus in favour of his employees, given the nearly 138 000 people employed in the group, an equal division of the bonus would merely have netted each employee R362.32. However, the criticisms of highly paid CEOs against low paid employees highlight the continuing challenge of rewarding labour in cooperative production in a manner perceived to be fair by society.

Continuous emphasis on and research into executive remuneration is still needed as Prophet (2013:1-2) found that there is a considerable variation in CEO pay between companies when comparing remuneration to return on shareholder funds in South African companies. Lamprecht (2014) questions whether the performance criteria used to determine executive bonuses are challenging enough as "it seems relatively easy for executives to receive considerably variable pay packages".

Given the assumption of self-interest maximisation, the risk of excessive directors' remuneration remains a key element that needs to be controlled. Excessive remuneration is also an indication that moral hazard on the part of the

[55] Entry-level employees generally report their net monthly salaries as they highlight the cash component they receive, whereas the gross annual remuneration of executive members is reported.

possibly overpaid directors, compounded by the adverse selection of remuneration policies linked to the difficulty of overseeing the remuneration process efficiently, is still a challenge that needs to be more efficiently controlled.

Goal congruence is important in this study since the board as a governance mechanism will only be effective as such if the results of their direction of the activities and resources of the company produce improved long-term performance. Although this study focuses on enhanced value for the shareholders, contractual relationships with other stakeholders such as employees, customers and creditors will also benefit a company that focuses on increasing its performance and value with a view to ensuring long-term survivability. The net present value of a company which is expected to survive in the long-term will exceed that of a similar company with a short-term focus. In addition, a longer focus also helps to develop improved business relationships with the other contractual stakeholders such as suppliers, customers and employees. Thus, focusing on improving firm value in the long-term is beneficial for the shareholders as well as other stakeholders.

3.6 Chapter summary

From the discussion in section 3.5, it can be noted that there are controls available to align the interests of the shareholders as principals to those of the board as agents, such as monitoring and bonding, and that using these controls contributes to agency cost. The available controls address the agency problem on two fronts, using monitoring as a control and performance management linked to remuneration to direct and control the board's labour. Monitoring with separation of duties are used to control possible shirking or the excessive use of perquisites by the board, while bonding is used to reduce monitoring cost by establishing contractual guarantees and limiting the decision-making powers of executives through organisational structures or regulatory and legislative requirements. The use of evaluation and performance aligned remuneration to direct and bond the labour of the board in a manner that maximise firm value in the long-term is linked to the managerial labour construct discussed in detail in chapter 5. Whereas monitoring

and the separation of duties to oversee and bond the actions of the board are aligned to the corporate control construct discussed in detail in chapter 4.

The origin and development of the agency theory included discussions on the separation of ownership and control, maximisation of self-interest and measures to encourage goal alignment. The study uses an agency theory perspective to explain the relevance of agency theory principles and contextualise the discussion on the origin and historical development by using examples of the current South African environment to establish the agency theory as the lens used in this study. A more detailed analysis of the controls used to address goal alignment in corporate control and managerial labour is provided in chapters 4 and 5 respectively.

CHAPTER 4: CORPORATE CONTROL CONSTRUCT

"Control your own destiny or someone else will."
Jack Welch

4.1 Introduction

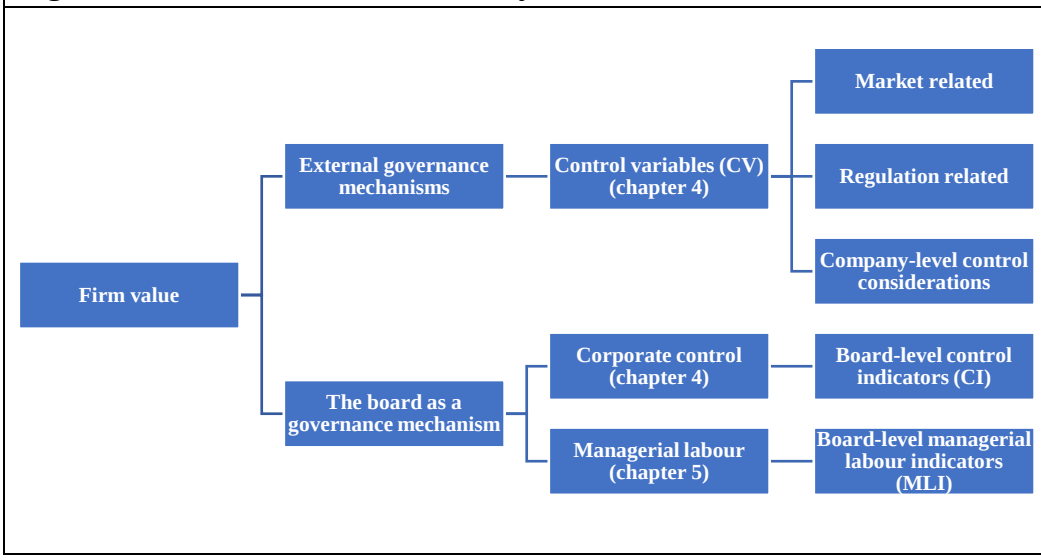
Chapter 3 described the current relevance of the agency theory, the separation of ownership and control, causes of goal divergence and the development of agency theory in the context of cooperative production challenges. It also discussed the challenges of achieving goal congruence by reducing agency cost, especially using monitoring as a control. The need for control is centred in the maximisation of self-interest (Agrawal & Knoeber, 1996:377) where directors might "substitute leisure or overindulgence in company perquisites for managerial effort", thereby increasing agency cost and reducing firm value (Walsh & Seward, 1990:422).

Corporate control focuses on board-level controls including oversight via monitoring and separation of duties used by boards to reduce goal divergence and agency cost whereas managerial labour focuses on the controls that control and direct the boards' labour. This chapter focuses on how the board uses oversight and separation of duties as a control by identifying the defining control indicator (CI) to construct a control index. Constructing an index enable the study to assess the relationship between the CI index and firm value.

As there are other factors or variables that also influences firm value it is important for the study to control for these other variables. These variables are referred to as control variables as it is important to statistically control for their relationship to firm value in order to isolate the relationship between CI and firm value in line with the *ceteris paribus* principle (Wooldridge, 2014:12). As this chapter focuses on control the identification and definitions for the control variables is discussed first before this chapter discusses the indicators for the CI index to represent board-level controls.

Control variables are variables not directly related to the board as a governance mechanism, that influences firm value and thus are an essential part in the analysis used by this study (discussed in chapter 7) to enable the study to isolate the relationship between the corporate control and managerial labour indexes that represent the board as a governance mechanism, and firm value. Figure 4-1 below summarises the control focus used in this study in relation to firm value. The controls related to managerial labour are discussed in chapter 5.

Figure 4-1 Controls focus of the study



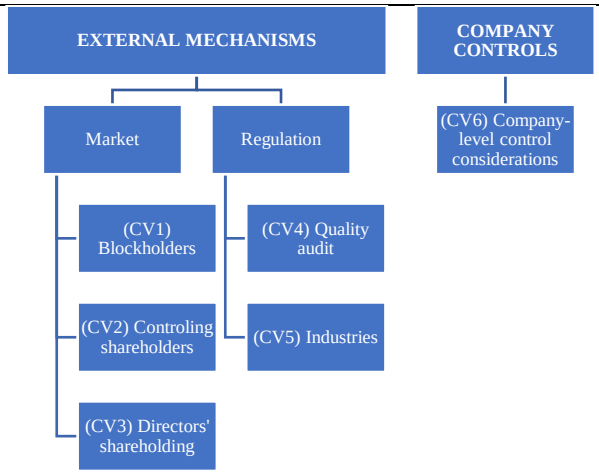
The index of board-level control indicators (CI) considers the structure and composition of the board to oversee the board's activities and ensure there are adequate oversight and separation of duties to manage goal divergence.

Improved controls are generally only implemented when the expected benefit of the control exceeds the expected cost. During the initial introduction of improved controls, reduced wastage (the excessive use of perquisites) and slacking leads to more dramatic improvements in firm performance and value. As the improved controls mature they continue to maintain the new efficient system but the tempo of the improved performance will slow as the maintenance of the controls continues to manage moral hazard risks to prevent a slide back to previous inefficiencies. Thus, improved controls are expected to be positively associated with improved

firm value due to a reduction in agency cost in line with sub-hypothesis 1. However, the impact is not expected to be as dramatic as with the initial implementation of governance principles recommended by King I and II.

The identification of control variables helps to ensure that the control activities of the board can be assessed separately. This chapter starts by identifying control variables[56] that are linked to the broader corporate governance field and are reported influencers of firm value. Control variables are influenced by First World elements such as the market (discussed in sections 4.2.3.2-4.2.3.4), legal and regulatory environments as they relate to quality audit (section 4.2.3.5), bonding in industries (section 4.2.4) and longer term company-level control considerations (section 4.2.6) including board size and board independence that are influenced by shareholders who appoint the board. The latter enable the study to separate company-level control considerations from board-level controls such as oversight and separation of duties. The control variables are summarised in Figure 4-2 and in more detail in Appendix 4.

Figure 4-2 Control variables



After defining the control variables, the chapter describes control indicators available to the board. In a more recent study in developing countries Al-Akra, Abdel-Qader and Billah (2016:213) found that improved controls can be used to

[56] Control variables are all coded using CV and a number to differentiate between the control variables and the variables used in the indexes.

maximise firm value. This study focuses on the level of control that is exercised by the board[57] and not the power to control the board via the ability to select board members as in an early South African study by Cohen and Uliana (1990:9).

This chapter expands on the board's corporate control role and identifies control indicators that can be used to control agency cost and reduce goal divergence. The control indicators are used to develop an index of control indicators (CI) as summarised in Appendix 5. The focus of this chapter is to identify and define the control indicators available to the board to enable the construction of the CI index to achieve SO 1.

SO 1 – to develop a CI index to measure the level of corporate control of the board.

Developing the index of control indicators enable the study to identify the level of control used by the board in their corporate control role using the CI index and enable the study to test SH 1.

SH 1 – there is a positive relationship between the CI index that measures the level of the board's corporate control and firm value

The chapter is structured as follows: Section 4.2 describes the internal and external mechanisms in the corporate control construct and identifies the relevant control variables. In section 4.3 control indicators that are available to the board to monitor and control the firm are identified and defined to develop the CI index. The chapter ends with a summary of corporate control considering the control variables and the CI index in section 4.4.

[57] As this chapter focuses on the control of the board, controls within the power of shareholders such as determining the board size as well as the number of non-executive and independent board members are part of the company-level control considerations (CCI), a control variable.

4.2 Internal and external mechanisms of corporate control

Corporate control includes external and internal governance and control mechanisms or indicators that focus on controlling the agency problem. As this study focuses on the board as a governance mechanism, the aim of corporate control is to identify control variables that monitor and bond the board's control options by identifying control variables (CV) and to identify control indicators available to the board to use in the development of a CI index. The control focus used by the study is visually summarised in Figure 4-1 and the CI index is developed in section 4.3.

4.2.1 Introduction to internal and external mechanisms of corporate governance and control

The board is an internal governance mechanism while legislation or regulations and the markets are external governance mechanisms. External governance mechanisms can be used as an ultimate control when the shareholders use the markets to buy and sell shares. Alternatively, external governance mechanisms can bond the directors' actions when they are legally required to act in a specific manner, for example, to act with due care or be held liable for breaching their fiduciary duties (RSA, 2008a: sections 76 & 77).

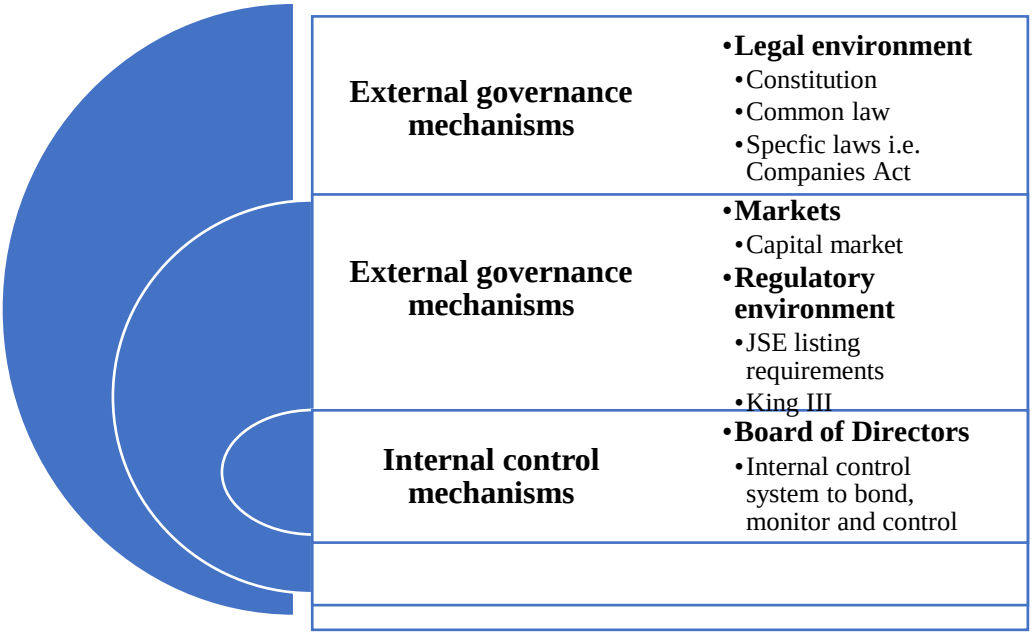
In general, the market for corporate control serves as a control of last resort when internal control indicators fail (Walsh & Seward, 1990:434). Jensen (1994a:15) describes the control forces that can be used for goal convergence as the capital markets, the legal, political and regulatory system, the market for products and the internal control system used by the board. The latter is the focus of this study. The most pertinent external governance mechanisms applicable in South Africa are the regulatory and legislative environment supported by the market. Based on the market, regulatory and legislative environments derived from the established First World elements discussed in section 2.3, South Africa has been able to establish a strong governance foundation.

Within the South African context, the board directs the internal governance mechanisms by establishing a control environment or internal control system using hierarchies. Organisational hierarchies bond the decision-making powers of managers by establishing and monitoring accountability. The First and Third World elements (described in chapter 2) have an impact on the nature and composition of South African boards and this could influence the effectiveness of the control indicators used. Ntim *et al.* (2015:199) state that South Africa's transformational needs could result in the appointment of less qualified or less experienced board members and that this, coupled with low levels of shareholder activism, could result in a weaker monitoring role.

However, increased accountability through legal bonding via the Companies Act (discussed in sections 1.1 and 1.3), coupled with a societal move towards holding directors accountable and liable (Carciumaru, 2010:251), are factors that encourage rigorous board monitoring for all board members. Increased accountability helps to improve monitoring and the efficient use of resources, thereby reducing agency cost.

This chapter identifies control variables and indicators that can be used to control the agency problem. Control indicators consist mainly of controls that monitor and bond the board as specialist managers using internal control systems such as hierarchical structures that enable the separation of duties and accountability, enabling effective oversight through monitoring. Millson and Ward (2005:77) note that the maintenance of an effective internal control system is a critical part of monitoring. Governance mechanisms and methods that helps to manage goal congruence, along with their interdependent influences on corporate control, are shown in Figure 4-3 below.

Figure 4-3 Governance influences



The legal environment influences governance mechanisms and limits the options of the board as selected control indicators must comply with the requirements of the legal environment. Over and above the protection offered by the Companies Act (RSA, 2008a), there are a myriad of laws influencing the markets, with a significant number of laws introducing protective measures, such as the encouragement of competition (RSA, 1998a), access to information (RSA, 2000), prevention of insider trading (RSA, 2004), legislation for companies (RSA, 2008a), and consumer protection (RSA, 2008b).

The advantage of a strong legal environment is that it mimics the governance systems in developed countries by combining the advantages of the markets with a strong legal system, which has resulted in a robust corporate governance environment in South Africa. Shleifer and Vishny (1997:739) found that "corporations in successful market economies, such as the United States, Germany, and Japan, are governed through somewhat different combinations of legal protection and concentrated ownership", which are methods that are also used in South Africa.

The regulatory environment is not as strong as the legal environment, although companies listed on the JSE also have to comply with its listing requirements, which include compliance with the recommendations of the King code and report (JSE, 2011). Governance principles described in the King III code and report, although applicable to all types of entities, are not compulsory as they follow an apply or explain approach, leaving the choice of how to govern a company with its board (IoDSA, 2009a:10; IoDSA, 2009b:12). However, as compliance with King III was a listing requirement during the period of the study (JSE, 2011), the more detailed guidance of King III could have been interpreted as a bonding requirement as companies disclosed their application or explained deviations from the 75 principles in King III (IoDSA, 2009b:12). In support of the assertion that there has been a move towards improved governance compliance, Waweru (2014a:469) found high levels of compliance in South African firms, suggesting more mature governance practices. This is in line with earlier studies (on King II's recommendations) which also reported that corporate governance compliance had improved over time (Ntim, 2009:23; Mans-Kemp, 2014:197). The role of the external and internal governance and control indicators in corporate control is discussed in more detail in sections 4.2.2-4.2.5.

4.2.2 Role of external governance mechanisms in corporate control

External governance mechanisms include legislation, other regulations and the market, with the market operating within the constraints of the overall legal environment. Governance mechanisms can either bond or monitor the actions and options of parties in an agency relationship. More details on bonding are included in the following section.

4.2.2.1 Bonding

The strongest bonding mechanisms stem from legal restrictions which restrain managerial opportunism (RSA, 2008a: sections 75-77). Shleifer and Vishny (1997:743) concur that legal requirements curtail managerial opportunism.

Breaching fiduciary duties can result in adverse consequences as some of the settlements paid by independent directors of Enron and WorldCom were over $10 million (Fich & Shivdasani, 2007:307). Being found guilty of breaching South African laws has resulted in jail time for executive directors found guilty of committing fraud (Davis, 2014). Laws have been used in South Africa to safeguard shareholders by requiring for example specific approval by shareholders to prevent the board from selling the greater part of the assets of the company without approval (RSA, 2008a: sections 112-114). Laws have also been used to help prevent the board from benefiting from inside knowledge by outlawing insider trading (RSA, 2004). Legal bonding is not directly taken into consideration in this study as parties to an agency relationship are expected to abide by the applicable legal requirements given the strength of the legal environment in South Africa. However, the bonding-legislated monitoring mechanisms, for example the requirement to appoint auditors, are taken into consideration. Other legislative bonding mechanisms are indirectly considered by controlling for industry differences in section 4.2.4.

The regulatory requirements are guided by the principles in King III (IoDSA, 2009a:31; IoDSA, 2009b:33) and are strengthened by the requirement that compliance with King III is a JSE listing requirement (JSE, 2011). The principles in King III (IoDSA, 2009b) that are applicable to the board and its committees (mostly described in Chapter 2 of the King report) inform the control mechanism available to the board and are discussed in section 4.3.

The requirements of the JSE as well as the overall legislative and regulatory environment apply equally to all the SRI index companies over the period of the study and in general bond the actions of parties to the agency relationship. This mix of using the market and legislative environment to create a suitable environment for corporate governance is found in successful market economies (Shleifer & Vishny, 1997:739). However, despite the maturity of the JSE as a market, the limited size of the South African market has resulted in more concentrated share ownership and pyramid holdings (Fosu, 2013), in contrast to the dispersed shareholding reported in the USA and UK (Gilson, 2006:1643). Thus, despite the sophistication of the

South African market, its smaller size limits the economic control of the market and in turn increases the importance of monitoring as a control mechanism.

4.2.2.2 Monitoring

Monitoring can be used to align goals by monitoring the actions of agents (the board), resulting in monitoring costs that contribute to agency cost. Monitoring includes overseeing, observing and controlling agents to help to ensure that they act in the best interests of the company and its shareholders. However, the extent and strength of monitoring depend on multiple factors, including the size and complexity of the company (Watts & Zimmerman, 1979:277; Weisbach, 1988:452; Dalton, Daily, Johnson & Ellstrand, 1999:676).

Monitoring aims to address the problems caused by information asymmetry, a moral hazard. Information asymmetry is a problem as, for instance, the managers have a better knowledge of their contribution, their shirking and their levels of consumption of perquisites than the shareholders. Information asymmetry exists on all levels in a company, not only between the board and shareholders, which makes it more difficult for the board to monitor and control the efficient use of assets and limit shirking and the excessive consumption of perquisites. It is just as difficult for shareholders to observe for themselves when directors are shirking their responsibilities, especially their responsibility to innovatively invest the assets of the company efficiently or to prevent the inefficient use of resources.

This study controls for external monitoring by a dominant or controlling shareholder (section 4.2.3.3), oversight by institutional investors or blockholders with major shareholdings (section 4.2.3.2), directors' shareholding (section 4.2.3.4), as external monitoring by shareholders influences board options. Quality audit (section 4.2.3.5), highlights externally controlled oversight that can address information asymmetry problems between the board and shareholders. In addition, the study controls for differences in industries as different industries are bonded by industry-specific legislation (section 4.2.4).

4.2.3 External monitoring

External monitoring by shareholders stems from their voting power, as well as the legislated responsibility to appoint the company's board and external auditors (referred to as auditors). In addition to the shareholders' voting power, markets are the ultimate control mechanism for shareholders, as the market enables the buying and selling of shares, including the facilitation of takeovers and mergers. Shareholders of shares traded on the market have few barriers to their decisions to buy and sell, making it easy to exit as a shareholder when a company underperforms.

Different groups of shareholders, such as controlling shareholders, block-shareholders or institutional investors and directors with significant shareholdings, are examined in this study. The choice of three shareholding groupings in this study is in line with a prior study by Cho and Kim (2007) and is discussed along with quality audit in sections 4.2.3.1-4.2.3.5.

4.2.3.1 Market control

The historic USA market for corporate control that was active in the railway sector early in the 20th century enabled the buying of shares on the open market in order to gain control over companies, thereby illustrating the power of the capital market as a market mechanism (Cheffins & Bank, 2009:447). When companies underperform, shareholders can sell their shares to exit the relationship with the company; such sales can lead to a fall in the share price and make the company a takeover target. Anderson (1989:46) notes that firms with excessive positive agency costs are targets for corporate acquisitions. South Africa, however, has a small market with concentrated and pyramidal ownership structures (Fosu, 2013:143) that influence the agency relationship (Hu, Tam & Tan, 2010:728). This results in an agency problem among shareholders, where institutional shareholders could act as monitors, in addition to the agency problem between the shareholders and the board. However, the First World strengths in terms of a strong market and legislative environment suggest an effective agency environment. Henry (2010:26) defines an effective agency environment as the existence of a national stock

exchange coupled with corporate legislation that sets a standard for shareholder protection and manages the takeover market.

The complication of possible shareholder conflict is a common occurrence in developing countries (Waweru, 2014a:458), as they tend to have more concentrated ownership structures in contrast to the diverse shareholder profile in developed countries (Gilson, 2006:1643). However, it might be less of a problem in South Africa given its strong legal system which protects minority shareholders, and strong application of reporting standards which reduces information asymmetry. Thus, controlling shareholders as well as blockholders might be more motivated to act as monitors towards goal alignment and the maximisation of firm value than they would in other developing countries.

In protecting shareholders, the capital market plays an important role as an external governance mechanism by enabling a free trading environment. The market enables shareholders to sell their shares and reduce their exposure in underperforming companies as an ultimate control action. This option is ideal for smaller shareholders who are not financially sophisticated, or shareholders mainly interested in a return on their investment and who do not want to perform an oversight or monitoring role. Thus, the risk of reduced share prices and takeovers can be a motivational force that encourages larger shareholders to monitor the board as well as for the board to improve their control, as a takeover could result in changes to the composition of the board.

The power of shareholder control is supported by the market, as "shares with superior voting rights trade at a large premium" (Shleifer & Vishny, 1997:759). With the introduction of the 2008 Companies Act, allowance was made in sections 36 and 37 for companies to issue shares with different rights[58] (RSA, 2008a). In addition, mergers and takeovers can be used to either grow a company or take over an underperforming company to improve the efficiency of its operations. Although

[58] To consider whether shares with superior voting power will trade at a premium in South Africa or whether shares with different rights are prices differently, is an area of future study and falls outside the scope of this study

mergers and takeovers by larger companies of small companies are a commonly used growth strategy, mergers and takeovers of large listed companies in South Africa are rare. This is in line with the explanation by Ntim *et al.* (2015:199) that the South African "market for corporate and managerial control" is less active.

As shares can be valued at the present value of future cashflows (Steiger, 2008:1) shareholders are more likely to vote favourably on a takeover if they receive a premium. Mover (1970:22) notes that, in a merger, an acquiring firm can pay a 15% premium for shares. A subsequent study by Li and Ang (2000:7) identifies a merger premium of 18%. However, not all takeovers and mergers add value to the acquiring company and the extent of unlocked value might be less than the anticipated value due to information asymmetry. The hostile takeover of Adcock Ingram at ±R70 per share by Bidvest (Motsoeneng, 2013) is an example of a costly takeover. The takeover did result in executive resignations and changes in top management as well as a successful repositioning of Adcock Ingram; however, it was expensive and Adcock Ingram's share price was only ±R47 per share three years down the line despite improved efficiencies (Motsoeneng, 2013; Mahlaka, 2016). In South Africa, takeovers and mergers are regulated by a Takeover Regulation Panel under the provisions of chapters 5 and 7 of the Companies Act (RSA, 2008a).[59]

Recent South African examples where takeovers were used to expand business opportunities are the takeover by Wal-Mart of the Massmart group for which a 19.2% premium was paid (Anonymous, 2011), and Anheuser-Busch InBev's takeover of SABMiller for which they paid a 51% premium (Ambrose, 2016; Thomas, 2016). The high premium paid for SABMiller was a reflection of the consistent above-average performance recorded by SABMiller over time, and the resistance by the market to the initial takeover offer (Martin, 2016). A 20% premium appears to be more common in the South African market as Telkom's offer at a 20% premium for Business Connection (BCX) was approved by the

[59] The South African share market's takeover defences centre on legislation requiring approval from the Takeover Regulation Panel, the Competition Commission and the shareholders and are far less complex than the takeover defences available in the USA.

shareholders (SAPA, 2014a). Takeovers of large underperforming companies are unusual in South Africa, a rare recent example being the hostile takeover of Adcock Ingram by Bidvest (England, 2014). However, the main level of approval for any takeover or merger is the permission of the shareholders, a fact which could encourage shareholders with large shareholdings to monitor the board towards improved firm effectiveness and efficiency.

Takeovers or mergers are not used as separate control variables in this study as they need the approval of shareholders and are indirectly controlled for via the consideration of various shareholdings in this study. Given the limited number of shares trading on the JSE, larger shareholders or blockholders (including institutional investors) could together hold the deciding vote.

4.2.3.2 Blockholders

Blockholders, such as institutional investors, are shareholders with a large enough shareholding to be classified as blockholders. Institutional investors are bonded by protective measures that originate from legal requirements (Terblanche, 2011). Legal requirements can restrict market activities through requirements that, for example, limit investment, such as limiting USA insurance companies' investment in equities to 20% of their investment with an additional limit of 2% in equities in any specific company (McColgan, 2001:33).

In South Africa, pension funds are limited by regulation 28 of the Pension Find Act 24 of 1956 regarding both the percentage of assets they can invest in and a limit per issuer (Herringer *et al.*, 2009:15; Terblanche, 2011). Heese (2005:733) explains that some of the factors that could influence companies on the SRI are an increased emphasis on the fiduciary duty of pension fund trustees that follow a conservative investment strategy as well as a need to develop skills to identify development-oriented investments on the part of the investment manager. The conservative guidelines include the limitation that a 25% investment in private equity should not be exceeded and listed equities are capped at 75% (Herringer *et al.*, 2009). The pension fund limitations bond institutional investors through the use

of regulation to force them to hold more diversified portfolios that limit the risk exposure in individual companies. However, institutional investors such as pension funds need to continuously evaluate the available investment opportunities to ensure that they optimise their invested funds, giving them a continuous monitoring role as either an existing or prospective investor that can buy or sell shares. Anderson *et al.* (2007:781) find that there is increased monitoring by institutional investors in developing countries. Monitoring by institutional investors could be in their own interests as investing in high-performing shares will reflect positively on the institutional investor.

Traditionally South African institutional investors have developed a practice of maintaining a level of independence from the companies they invest in. This has resulted in poor levels of activism, with increased activism only being used to protect financial value despite high levels of collective ownership (Heese, 2005:733-734). Abor and Biekpe (2006:62) found in a South African study on the AltX companies that the existence of only one blockholder results in effective monitoring but that monitoring decreases with multiple blockholders highlighting a possible free rider problem. The importance of institutional investors or blockholders fulfilling a monitoring role have been emphasised by the introduction of CRISA in 2012 (IoDSA, 2011).

Monitoring by institutional investors in South Africa was in the early stages of development in 2012 as it was only from 2012 onwards that institutional investors started to disclose compliance to CRISA and the way they voted. Viviers and Smit (2015:25) note that in 2013 few institutional investors considered the CRISA principles. Institutional investors are, however, becoming more active monitors since the implementation of CRISA. Examples include the Public Investment Corporation (PIC) [60] publicising the way they intended to vote on the

[60] PIC is the largest institutional investor in South Africa as PIC is responsible for investing the government's pension funds. In contrast to Ntim's (2009) PhD study and subsequent publications, this study does not classify PIC as a government shareholding as PIC operates as an institutional investor. Companies with the government as a shareholder like Telkom SA SOC Limited have a direct government shareholding and are differentiated by the addition of SOC, which stands for state-owned company, in the name of the company, indicating state control.

Adcock takeover bid in 2014 and publicly backing the Pretoria Portland Cement (PPC) board's recommendation on the appointment of a new CEO (Hedley & Derby, 2014; Mantshantsha, 2014). However, Viviers (2015:15-16) found that institutional investor activism is still emerging even through there has been a move to vote against possible excessive executive remuneration. Scholtz and Engelbrecht (2015:43) found a significant inverse relationship between institutional investor shareholding and voting on the remuneration policy and directors' remuneration. As this study focuses on board-level controls blockholders is considered as a shareholder as one of the control variables.

Except in situations where institutional investors are the controlling shareholder, this study includes institutional investors with 5% or more shares as blockholders together with other blockholders. Using a 5% shareholding cut-off is in line with a prior South African study by Abor and Biekpe (2006:54). Given the relatively new move towards institutional shareholder activism by South African institutional investors since the introduction of CRISA, the impact of active institutional investors as shareholders on the profitability of South African firms is an emerging research area. An early study on voting for executive director remuneration by Viviers (2015:15-16) found that institutional investor activism centres around private negotiations and proxy voting, which indicates that institutional shareholder activism still needs to mature.

This study combines institutional investors with other large investors as blockholders, given the smaller size of the market and the more concentrated shareholding in South Africa. Blockholders, as a strong or major shareholder group, form part of the control variables used in the study as their combined voting power can be extensive. To accommodate the monitoring by strong or major shareholders, blockholders are used as a control variable (BLOCK)[61], in this study.

[61] Each control variable is identified using an abbreviation or acronym in capitals to identify the variable in the statistical analysis reported in chapter 7.

- CV_1 = BLOCK is the percentage combined shareholding of blockholders who hold 5% or more ordinary shares in a company but who are not a controlling or dominant shareholder. The relationship between monitoring by blockholders and firm value is expected to be positive. BLOCK controls for the negotiating power of institutional or other large shareholders referred to as blockholders that are not controlling shareholders. Viviers and Smit (2015:23) found that institutional shareholders have the negotiating power to directly engage with the executives of companies they invest in.

Recent South African studies that used blockholders as a variable, together with their definitions of blockholder, are listed in Table 4-1.

Table 4-1 Blockholder variables

Blockholder definitions	References
Percentage of shareowners with at least 5% of the firm's common stock.	(Abor & Biekpe, 2006:54)
Percentage of common shareholders with at least 5% of the total company shareholdings.	(Ntim & Soobaroyen, 2013:130; Ntim *et al.*, 2015:201; Ntim, Lindop, Thomas, Abdou & Opong, 2017:18)
Number of shares held by shareholders with at least 5% holding scaled by the total number of shares.	(Mangena & Chamisa, 2008:36)
Proportion of common shareholder funds owned by single institutions each holding 5% or more of the common shares.	(Muniandy & Hillier, 2015:115)

While the above wording reflects slight differences in the definitions, the essence of the definitions for blockholders is the same. This study differs from prior studies in its limitation of the upper limit of shareholding for blockholders as

although the study uses the same entrance level of 5% to identify blockholders, the upper limit is capped to exclude controlling shareholders. Controlling for different groups of strong shareholders enables this study to control for the agency problem among shareholders in order to focus on the board as a governance mechanism.

4.2.3.3 Controlling shareholders

The legal environment influences the ability of the shareholders to control boards because shareholders have the power to appoint or remove directors from the board (RSA, 2008a: sections 66, 68 & 71). It is therefore possible for disgruntled shareholders to use shareholders' meetings to address concerns regarding the efficiency and effectiveness of the direction and management of the company by the board without compromising their right to sell their shares.

Shareholders can also use their power to replace board members. In a recent South African example, shareholders selected six board members from a nominee list of ten people coupled with the appointment of a new CEO after a public boardroom battle in a listed company (Hedley & Derby, 2014; Global Cement, 2015). However, voting power can only be exercised to hire or fire directors in situations where the shareholders have enough shares to support their votes to give them the necessary power to approve decisions. Such large shareholdings attract their own agency cost as the company and the remaining shareholders have to be protected from possible exploitation by large shareholders (Shleifer & Vishny, 1997:739; Yeh & Woidtke, 2005:1858).

Dominant or controlling shareholder exploitation is, however, curtailed by institutional investors or blockholders who can act as monitors. It is also controlled legally via the protection of shareholder rights in section 161 of the Companies Act (RSA, 2008a). Controlling shareholders can be an advantage as they are expected to apply active monitoring to maximise firm value. In their review paper Bebchuk and Weisbach (2010:940) note a strong relationship between large shareholdings

and firm performance and highlight the need to test the effect of shareholder activism on profitability.[62]

Prior research on the different categories of shareholders has produced mixed results and is discussed in more detail below. Contrary to the expectation that controlling or major shareholders are monitors who ensure improved firm performance, a meta-analysis performed by Dalton, Daily, Certo and Roengpitya (2003:20) did not find any relationship between ownership and firm performance. In support Beiner *et al.* (2006:277) found in Switzerland that neither controlling shareholders nor large blockholders had a significant impact on firm value using Tobin's Q. These findings could be an indication that in developed countries there is a lesser need for shareholders to act as monitors.

The lack of a clear relationship between controlling shareholders and firm value is in contrast to the expected effect from an agency theory perspective, where the maximisation of shareholders' interest by a controlling shareholder, or the monitoring by an active institutional blockholder, is expected to result in the maximisation of firm value. However, developing countries follow a different pattern. Cho and Kim (2007:247) find that ownership concentration in Korean firms increases firm performance as measured by RoA. In another study Ehikioya (2009:237-239) found that in Nigeria firms with high levels of ownership concentration have higher market valuations. The findings from studies in developing countries are in line with the agency theory expectations that large shareholders will act as monitors to improve firm value. Given the balance between First and Third world elements in South Africa, a local perspective could increase the body of knowledge on the monitoring of controlling shareholders as well as blockholders.

Shareholders with larger shareholdings, or dominant shareholders, could play an additional monitoring or shareholders' oversight role in monitoring the

[62] Given the emerging nature of shareholder activism in South Africa, this remains an area for future research.

effectiveness and efficiency with which the board executes its duties, as they have the voting power to act on the results of their monitoring. Although blockholders could have a moderating influence on a controlling shareholder, they are confronted with the free rider problem as found in a South African study (Abor & Biekpe, 2006:62). The free rider problem is where individual shareholders are not interested in a monitoring role and hope other shareholders will oversee the company's management, enabling them to freely benefit from the expertise of the other shareholders who are prepared to monitor the board and participate in the governance of the company (Shleifer & Vishny, 1997:741). As shareholders appoint specialist monitors to manage and monitor the business of the company, they do not need the necessary management skills to properly evaluate the actions of the board.

Although smaller shareholders would be wary of the possibility of misuse of power on the part of the large shareholder, they are seldom in a position to monitor the activities of the large shareholder. This risk is highlighted by Abor and Biekpe (2006:54-55), who state that "controlling shareholders may consider their own benefit and act against creditors and minority shareholders". However, creditors and minority shareholders are protected because their rights are protected by law. In addition, minority shareholders could use the market and sell their shares while creditors could also use their trade contract to control their risk.

Inactive shareholders rely on the ability of the specialist managers they appointed to the board to act as monitors to help control the agency problem. Companies with dispersed shareholders would therefore be expected to make greater use of independent directors to act as monitors on their behalf. Yeh and Woidtke (2005:1882) find that controlling shareholders do influence the board selection process, which highlights their monitoring role. This is in line with the description of the monitoring role of the board as to "constrain the opportunistic behaviour" of managers (Anderson *et al.*, 2007:780). However, controlling shareholders could also appoint a board to serve their own interests, to the detriment of the minority shareholders, but this could be countered by blockholders.

From the above discussion around shareholders, it is clear that the dispersion of shareholders tends to have a ripple impact on the governance mechanisms used by companies. Denis, Denis and Sarin (1999:1075) find that the "equity structure affects the magnitude of agency problems". Dispersed shareholders are more likely to make use of more independent directors to act as monitors on their behalf, possibly resulting in an increase in the size of the board and the percentage of independent directors. Dominant or controlling shareholders are more likely to have a reduced need for independent directors as monitors, possibly resulting in a smaller board with fewer independent directors, as there are fewer agency problems. A controlling shareholder is defined in this study as a shareholder with 25% or more shares in a company, in line with a prior South African study by Steyn and Stainbank (2013:6) where the lowest level of disclosed control from a controlling shareholder was 25.1%.

Both dispersed and controlling shareholders are expected to encourage the use of a structure that will maximise their investment by maximising firm value. The dominance of a controlling shareholder (CONSHA) forms part of the control variables used in this study, as dominant shareholders can influence the size and composition of the board in a manner that would maximise firm value for them in addition to their monitoring role. This study used a dichotomous variable (also referred to as a dummy variable) to quantify a nominal variable into two mutually exclusive categories for statistical analysis (Devore & Berk, 2012:696). Thus, where a dominant shareholder monitors the board the increased oversight will result in a reduction of company-level and board-level controls reducing agency cost and increasing firm value, resulting in a positive relationship with firm value.

> CV_2 = CONSHA is a dichotomous variable where a controlling shareholder is a shareholder with 25% or more shares in a company (coded as 1), and companies without a dominant shareholder are seen as companies with dispersed shareholders (coded as 0).

Companies where directors are also the controlling shareholder are coded as controlled by directors[63].

In situations where the controlling shareholder is a director or directors, the company would be classified as being without a dominant shareholder (coded as 0) as the company would be controlled by the board. Recent studies that considered controlling or dominant shareholders as a variable are listed in Table 4-2, along with their definitions of a controlling or dominant shareholder.

Table 4-2 Dominant or controlling shareholder

Dominant or controlling shareholder definitions	References
A dominant shareholder is a shareholder with a declared controlling interest in the form of a shareholding of 25.1% or more shares. A South African study.	(Steyn & Stainbank, 2013:6)
A controlling shareholder is the largest shareholder with a shareholding of 5% or more, where the average controlling shareholding was 20.51%. A study on Asian firms.	(Bae, Baek, Kang & Liu, 2012)
The proportion of shares held by the five largest shareholders to total shares. A Nigerian study.	(Ehikioya, 2009:236)
Controlling shareholders hold more than 50% of the equity capital. A Ghanaian study.	(Agyemang & Castellini, 2015)

4.2.3.4 Directors' shareholding

Directors' shareholding can be used to align the motivation of the board with that of the shareholders to reduce agency cost and promote improved goal alignment. Such an alignment could reduce the board's need to deploy control indicators as the agency cost has already been reduced to an acceptable level and could also influence the selection of an optimal capital structure. Directors'

[63] There were only two companies in the latter category and they are controlled by the person who started the company

shareholding has been referred to in prior studies as shares closely held or insider shareholding (Davidson, 1997:5; Kyereboah-Coleman, 2007:21; Anabtawi & Stout, 2008:1255).

In a South African study Abor and Biekpe (2006:59) found that high levels of directors' shareholding resulted in low debt ratios, and low directors' shareholdings were associated with high debt ratios. However, the results were not statistically significant, and the study focused on smaller companies. In addition to their shareholding, the board could also consider their labour reputation and follow a shareholder-friendly approach to market their skills to shareholders to improve their labour marketability (Levit & Malenko, 2015). The management of labour is discussed in more detail in chapter 5 under the managerial labour construct. To accommodate monitoring by directors' shareholding, it is used as a control variable (DIRSHA) in this study.

> CV_3 = DIRSHA is the combined directors' shareholding as a percentage of the total shareholding. DIRSHA controls for the enhanced goal alignment in situations where directors are motivated in a similar manner as shareholders.

Recent studies that considered directors' shareholding as a variable are listed in Table 4-3, along with their definitions of directors' shareholding.

Table 4-3 Directors' shareholding

Directors' shareholding definitions	References
Number of shares owned by directors and managers divided by total shares as a percentage.	(Abor & Biekpe, 2006:57)
The percentage of total firm equity capital (excluding shares attributable to underlying bonus, incentive and option plans) held by all company directors.	(Henry, 2010:30)
Common shares held by directors and expressed as a percentage.	(Ntim *et al.*, 2017:18)

4.2.3.5 Quality audit

Through bonding, the roles of the shareholders, directors and auditors are stipulated by legislation which regulates among other things the separation of powers of the shareholders and the board, monitored by an audit committee with oversight by the auditors over the transparency of the reporting practices. Zerni, Kallunki and Nilsson (2010:1174) explain that the value of auditing rests in its information asymmetry reducing role. Quality audit is thus the result of a complex balance between the appointment of the auditor by the shareholders, the establishment of internal control systems to support the dissemination of reliable, transparent information by the board, monitored by an effective audit committee with the auditors evaluating and reporting on the reasonableness of the reporting practices. To accommodate the complexity underlying quality audit, this study developed a quality audit score using the ground-breaking index building method of Gompers, Ishii and Metrick (2003). The development of a QAS differentiates this study as it consolidates the complex relationship linked to assurance in an index and positions the audit relationship as outside the control of the board as a control variable.

a) Role of the shareholders

Both the appointment of an external audit firm (section 90) and the appointment of an audit committee (section 94) are the responsibility of the shareholders (RSA, 2008a). The audit requirement and its monitoring via the audit committee prescribed by the Companies Act is the most pervasive legislative bonding mechanism applicable to listed companies in South Africa (RSA, 2008a: sections 90 & 94). The legislative requirement applicable to the audit committee helps to distinguish South African companies as the statutory requirements have elevated the audit committee to a statutory committee.

Although the appointment of an audit firm is a legal requirement, the oversight function performed by the auditor is a form of monitoring that encourages boards to use transparent reporting practices to reduce information asymmetry.

Sengupta and Zhang (2015:1073) note that improved financial transparency can help to reduce agency conflicts. The shareholders can indicate the need for quality assurance by appointing one of the Big-4 audit firms[64] to encourage reliable and transparent reporting practices.

Despite the control yielded by shareholders, especially shareholders large enough to influence voting outcomes and act as monitors, there is still the risk of information asymmetry. Increased information asymmetry based on reduced disclosure or low levels of transparency is seen by investors as value reducing and results in lower firm values (Hope & Thomas, 2008:623). This risk can be reduced by obtaining assurances on the reasonableness of the information from an external audit. To help minimise information asymmetry, shareholders would be motivated to appoint a high-quality audit firm (Big-4) to reduce agency cost (Chang & Chen, 2015:174).

Prior research emphasises that the top audit firms, currently collectively referred to as the Big-4, are associated with superior audit quality (Carey & Simnett, 2006:654). The appointment of one of the Big-4 audit firms can be used to indicate the use of a quality auditor to mitigate possible information asymmetry concerns by investors or shareholders (Zerni *et al.*, 2010:1170). Waweru (2014a:470) found a small negative correlation between quality audit and firm performance, highlighting the cost of adding a control, although their study did not consider information asymmetry. Their study yielded consistent results in support of the use of either audit fee as a percentage on sales or a dummy variable for the Big-4 firm as proxies. Thus, the way shareholders respond to their bonded requirement to appoint an auditor could yield improved benefits for them through the use of quality audit considerations to achieve improved oversight to reduce information asymmetry, with an increase in monitoring costs. In turn, the board could use transparent financial reporting processes to reduce information asymmetry and thereby reduce the audit fee to reduce agency cost (Healy & Palepu, 2001:406). It is thus possible

[64] The Big-4 audit firms are Deloitte, Ernst & Young (EY), KPMG, and PricewaterhouseCoopers (PwC).

that a proportionally larger audit fee for a company could suggest the existence of possible information asymmetry concerns.

b) Role of the board

The quality audit signal sent by the appointment of a Big-4 audit firm could encourage the board to direct and control the company in a manner that showcase their expertise to the shareholders and the board's commitment towards improved firm performance using transparent disclosure practices to reduce information asymmetry, and in turn reduce audit fees and agency cost.

Bedard and Johnstone (2004:299) found that there is an increase in audit effort and cost for companies with a heightened earnings manipulation risk, indicating an increase in agency cost where there are increased information asymmetry risks. Increased information asymmetry is likely to result in an increase in audit effort and audit fees. As audits are already strongly entrenched as a bonding mechanism, increased audit fees are only likely to occur in situations where monitoring failed to sufficiently address information asymmetry problems. Zerni *et al.* (2010:1174) explain that the value of auditing rests in its role in reducing information asymmetry. Because directors use internal governance mechanisms to ensure that there is proper internal control and monitoring, a strong corporate control environment should lead to lower audit fees. Any increase in audit effort is a symptom that the internal governance mechanisms are not operating optimally, resulting in an increase in information asymmetry. As information asymmetry is not easily observed by outsiders, the audit fee as a percentage of total assets, to control for company size and contextualise audit fees is used as a proxy for information asymmetry. In a meta study, Hay, Knechel and Wong (2006:169) found firm size to be "the most dominant determinant of audit fees", thus using the percentage of the current year's audit fees to total assets[65] may help to control for the influence of information asymmetry on audit fees.

[65] This study uses total assets (and not total sales) as a proxy for firm size as the SRI companies include service-oriented firms such as banks and insurance companies that report on revenue and not sales.

Using control indicators to reduce information asymmetry has benefits. Beekes and Brown (2006:445) found in a study on Australian firms that "better governed firms make more price sensitive disclosures, they have a larger analyst following, analysts' consensus forecast for better governed firms are less biased and more accurate". Quality audit is further enhanced by the oversight of the audit committee.

c) Role of the audit committee

The controlling or monitoring value of audit committees in developed countries has been highlighted by prior research (Collier & Gregory, 1999:329-330; Abbott, Parker, Peters & Rama, 2007:808). Less research has been done on the value of an audit committee in developing countries. Agyemang and Castellini (2015:58) identified a well-qualified and independent audit committee as a key control to contribute to board effectiveness in a Ghanaian study, but found that controlling shareholders yield extensive control, negating the effectiveness of high-level internal controls. Miko and Kamardin (2015:655) noted that in a Nigerian study audit committees and audit quality can reduce accounting manipulation using discretionary accruals. In an Asian study, Woidtke and Yeh (2013:1) emphasised that "audit committee independence alone may not be enough to enhance earnings informativeness" as "complete independence and financial or legal expertise" are needed "to increase investor confidence in accounting information" in situations where "ownership is concentrated". Thus, in developing countries, concentrated ownership could influence the operation of an audit committee adversely if the members are not independent and knowledgeable.

The monitoring ability of the audit committee has been found to add value as a prior USA-based study referred to by Brick and Chidambaran (2010:546) found a positive relationship between Tobin's Q and the monitoring activity of the audit committee. Diligence through holding four or more meetings a year also helps the audit committee to be quality-focused in the execution of their duties, while financial expertise helps to ensure that audit risks are understood and clearly communicated (Abbott *et al.*, 2007:806, 808). The value of independence and

financial expertise is further supported by Agrawal and Chadha (2005:400), who found that the probability of restating earnings is lower in companies where audit committees include an independent director with financial expertise. The importance of financial expertise in developing countries is underscored by Tarus and Ayabei (2016:1073), who found in a Kenyan study that financial skills help to contribute to audit committee effectiveness. Klein (2002:398) found a negative association between audit committee independence and abnormal accruals as a proxy for earnings management. The value of independence on audit committees has been further emphasised by the finding that fully independent audit committees are associated with a significantly lower cost of debt financing (Anderson, Mansi & Reeb, 2004:315), resulting in a direct cost saving linked to reduced information asymmetry. However, the same study found little evidence to support the need for financial expertise on the audit committee (Anderson *et al.*, 2004:338). Agrawal and Chadha (2005:400) found that an audit committee with one director with accounting expertise is "less likely to restate" earnings, and Domnisoru and Vinatoru (2008:161) found that firms with audit committees with less accounting expertise are more likely to have internal control weaknesses. In summary, monitoring by audit committees is characterised by independent members who meet four or more times a year and include a member with financial expertise.

However, the above research does not take the relationship between an effective audit committee and firm value into account. Brick and Chidambaran (2010:539 & 542) found that a change to a fully independent audit committee resulted in an increase in the level of board monitoring, which led to an increased industry-adjusted Tobin's Q. Anderson (1989:46) explains that a "specifically appointed audit committee provides extra monitoring that aids in controlling excessive agency cost". In contrast, Brown and Caylor (2006:428) found no link between audit committee independence and firm value.

In a study on the voluntary adoption of audit committees by UK companies Collier and Gregory (1999:329-330) found that CEO duality and the inclusion of executive directors on the audit committee had a negative impact on the audit

committee activities supporting the current practice of using only independent directors on audit committees. In a USA study, independent, diligent audit committees with financial expertise have been linked to internal and external audit quality that helps address the risk of misstatement (Abbott *et al.*, 2007:808). Thus independence, diligence and financial expertise are considered to be key characteristics for the effective operation of an audit committee. These characteristics have been encapsulated by South African legislation and regulations.

Clearly, past evidence on the value of an audit committee has been mixed (DeZoort, Hermanson, Archambeault & Reed, 2002; Brown & Caylor, 2006; Brick & Chidambaran, 2010), and a variety of characteristics regarding the composition of the audit committee have been identified (Agrawal & Chadha, 2005:400; Brick & Chidambaran, 2010:546; Woidtke & Yeh, 2013:1; Agyemang & Castellini, 2015:58). These characteristics could influence the effectiveness of the monitoring role of the audit committee and are considered in the development of criteria used to evaluate the effectiveness of audit committees. In summary, the characteristics of audit committees highlighted by past studies centre on appointing independent people of whom at least one person must have financial expertise. The members of such committees should be diligent about attending meetings, with at least four meetings being held annually.

The timeline of the above findings may indicate that over time the use of audit committees has become a minimum governance requirement, bonding companies to the use of independent audit committees as monitors. The disadvantage of bonding mechanisms is highlighted by Brick and Chidambaran (2010:546), who found a positive contribution through monitoring by audit committees in the pre-SOX period which changed to a negative influence in the post-SOX period.

The uniqueness of the audit committee in South Africa is encapsulated in the fact that its existence is legislated and the shareholders are required to appoint at least three directors who are independent to the audit committee (RSA, 2008a: section 94). The King III code recommends that the audit committee should report

to the board and shareholders on how it has discharged its duties (Principle 3.10) and meet at least twice a year[66], or as often as necessary (Recommended Practice 3.1.4) (IoDSA, 2009a). The audit committee members should be suitably skilled and experienced, and the committee should be chaired by an independent non-executive director (Principles 3.2 & 3.3) (IoDSA, 2009a). In addition, the Companies Act requires the audit committee to report in the annual financial statements on the appropriateness of the financial statements, accounting practices and internal financial controls (section 94(7)(f)(iii) (RSA, 2008a). The independence of audit committee members is also specifically described in the Companies Act and King III as follows:

- The Companies Act requires at least three directors (section 94(2)-(4), who may "not be-
  - (i) involved in the day-to-day management of the company's business or have been so involved at any time during the previous financial year;
  - (ii) a prescribed officer, or full-time employee, of the company or another related or inter-related company, or have been such an officer or employee at any time during the previous three financial years; or
  - (iii) a material supplier or customer of the company, such that a reasonable and informed third party would conclude in the circumstances that the integrity, impartiality or objectivity of that director is compromised by that relationship; and
  - *(c)* not be related to any person who falls within any of the criteria set out" above (RSA, 2008a).

However, the recommendation of King III on independent directors focuses on excluding people with a relationship to the company or its stakeholders to ensure that independent directors are free from any conflict of interest (IoDSA, 2009b: Principle 2.18). King III qualified relationships as direct and indirect interests exceeding 5% equity or if less the interest must not be material to the personal

[66] The recommendation of twice a year align to the local practice of publishing interim and final results in contrast to the quarterly results published in the USA.

wealth of the person (IoDSA, 2009b: Principle 2.18). This study applies a stricter definition of independence by re-classifying independent directors with any direct or indirect equity interest in the company as non-executive, to ensure the study focuses on independent directors free from any conflict of interest.

The characteristics of the audit committee illustrated in the above discussion are used in this study to develop a measure of audit committee effectiveness. This measure is calculated by adding a point for each of the following:

1. The audit committee is staffed by at least three directors to comply with legislative requirements;
2. all the directors who are members of the audit committee are independent;
3. the audit committee includes a member with financial expertise;
4. the audit committee is chaired by an independent director who is not the chairperson of the board;
5. the audit committee meets at least four times a year; and
6. all the members of the audit committee attended all the meetings.

This study considers an effective audit committee to be one that meets all of the above requirements.

From the preceding discussion on the factors to be considered to ensure a quality audit, the following three pillars have been identified:

1. The appointment of a Big-4 firm by shareholders to signal quality audits.
2. The application of transparent reporting practices by the board, as reflected in the audit fee as a percentage of total assets. It is expected that transparent reporting practices result in a reduced audit fee.
3. The oversight of an effective audit committee staffed by independent directors with financial expertise who are committed to performing their duties diligently.

This study develops a quality audit score (QAS) as an index to proxy for the use of a quality audit and an effective audit committee using the sum of the following factors as a percentage:

1) The appointment of a quality or Big-4 audit firm as the external auditors. This is scored using a dichotomous variable where a quality audit as signalled by the appointment of a Big 4 firm is coded as 1, and companies not using a Big-4 audit firm are coded as zero (0). In situations where companies use two audit firms to assure their financial statements, both firms must be Big-4 firms for the company to be coded as 1.

2) The current year's reported audit fees as a proportion of the total assets of the company to accommodate the size and complexity of the company represent the cost of information asymmetry. Companies where the proportion of the current year's audit fees to total assets is below the median of the proportion of the current year's audit fees to total assets for the industry grouping are coded as 1 and the rest as zero (0). Allocating dummy variables according to a split in the groups using the median is in line with prior research (Henry, 2010:31; Smit, 2015:63).

3) Audit committees who comply with all six listed characteristics are considered effective audit committees (coded as 1), and the rest of the audit committees are not considered effective and coded as zero (0).

   The audit committee characteristics are:

   - The audit committee consists of at least three members,
   - all the members are listed as independent directors,
   - at least one member has financial expertise,
   - not chaired by the chairperson of the board,
   - the audit committee meets at least four times a year, and
   - all the members attended all the meetings.

As information asymmetry is not easily observed by outsiders like shareholders, quality audit supported by an effective audit committee can help to reduce information asymmetry and increase firm value. This study used a quality audit score (QAS) as a control variable to proxy for information asymmetry as quality audit is related to quality governance that helps to reduce information asymmetry (Waweru, 2014b:567).

> CV_4 = QAS is the sum of the three quality audit elements calculated as a percentage. The relationship between the quality audit and firm value is expected to be positive as it helps to reduce information asymmetry thereby increasing firm value.

Recent studies that considered quality audit related elements as variables together with their definitions are listed in Table 4-4.

Table 4-4 Quality audit

Variables	Definitions	References
Big-4 as a proxy for the appointment of a quality external audit firm.	Dummy variable 1 if the firm is audited by a Big-4 firm, 0 otherwise.	(Mangena & Chamisa, 2008:36; Waweru, 2014a:475; Ntim *et al.*, 2015:201)
Audit committee characteristics.	Size of the committee as the number of members Independence is the ratio of non-executives to the size of the audit committee Intensity is measured by the number of meetings per year.	(Kyereboah-Coleman, 2008:11)

Table 4-4 Quality audit - continued		
Variables	**Definitions**	**References**
Big-4 as a proxy for the appointment of a quality external audit firm.	Dummy variable 1 if the firm is audited by a Big-4 firm, 0 otherwise.	(Mangena & Chamisa, 2008:36; Waweru, 2014a:475; Ntim *et al.*, 2015:201)
Developed a sub-index for the audit committee.	Company has an audit committee. Chair is a non-executive director. Chairman of the board is not on the committee. Indicate the number of meetings held by the audit committee.	(Munisi & Randøy, 2013:92 & 108)
Proportional audit fees as a proxy for information asymmetry.	Statutory audit fees divided by the amount of sales.	(Waweru, 2014a:468; Waweru, 2014b:564)

4.2.4 External bonding

Legislative bonding differentiates between companies based on their industry and any industry-specific legislation. Industry-specific legislation bonding the control options of the board.

Companies are classified into industries that represent the nature of the company's enterprise. Different industries have various legal and regulatory requirements that focus on protecting and guiding the specific industry. It is therefore possible that although the different industries have different regulatory requirements, the need for all the industries to be compliant could reduce the industry impact on the performance of a company as the cost of compliance is comparable from one industry to the next. A recent South African study on directors' remuneration by Scholtz and Engelbrecht (2015:29) based on the Top

100 companies between 2009-2012 did not control for industry variation, possibly supporting the argument that compliance cost could negate industry variations.

The latter is, however, an unproven assumption. To accommodate industry variation, industry (IND) forms part of the control variables used in this study. As all industries must comply with various regulatory and legislative requirements, this study uses a dichotomous variable to separate industries into two groups on the basis of their customers. In companies where customers are linked to the broader public such as where the company supplies customer goods or services, telecommunications, financial and medical services, the customers represent a large and very diverse group and the industry is coded as 1 for consumer industries. In contrast, in manufacturing, oil & gas, technology and mining customers represent a small group and the industry is coded as 0 for primary industries with less diverse customers. Grouping industries using dummy variables is in line with Swartz and Firer (2005:153-154). They excluded the financial industry and used three groups, one group for mining and industry, another for retail and the third for services (Swartz & Firer, 2005:153-154). This study extends Swartz and Firer's industry grouping by further consolidating the industry groupings: retail and services are grouped together given their large customer base and include companies from the financial industry which also have a large customer base versus mining, oil & gas, technology and industry in the small customer group.

> CV_5 = IND is a dichotomous variable where the primary sectors, such as mining (basic materials), oil and gas, technology and industrial (industrials) sectors with few customers are coded as 0 (primary industries). The customer-centred sectors, such as consumer goods and services, health care, finance (financials) and telecommunication sectors with large customer bases are coded as 1 (consumer industries). As all industries need to comply with legislative requirements, their control indicators are selected to maximise the performance of the company in the industries, and no specific relationship between industries and firm value is expected.

> However, it is possible that broader economic circumstances could influence on industry and not the other. The classification of industries according to their broader customer basis is novel and an extension on the consolidated industries used by (Swartz & Firer, 2005:154).

Recent studies that considered industry as a variable are listed in Table 4-5, along with their definitions.

Table 4-5 Industry

Industry definitions	References
Dummy variables are used to code the different industries, using three industry groupings, one for mining and industry, another for retail and the third for services.	(Swartz & Firer, 2005:153-154)
Dummy variables for the five main industry groupings: basic material plus oil and gas, consumer goods and services, health care, industrials, technology and telecommunication.	(Ntim & Soobaroyen, 2013:126; Ntim *et al.*, 2015:201; Ntim *et al.*, 2017:18)

The importance of considering the customer base is discussed in more detail in the section on board size.

4.2.5 External governance mechanisms summation

External governance mechanisms can bond the participants in an agency relationship through legislative requirements. However, the same legal environment can encourage shareholders to monitor the board towards improved firm value.

This study considers the more active monitoring role of a controlling shareholder (CONSHA) with a shareholding of 25% or more, coupled with monitoring by blockholders (BLOCK) with a shareholding of 5% or more but less

than 25% as control variables external to the board. Prior research using blockholders tends to focus on shareholdings of 5% or more, as listed in Table 4-1, but few studies focused on large controlling shareholders (listed in Table 4-2). In South Africa control of a 25% shareholding can lead to direct control as the standard quorum requirements include a 25% shareholding representation in section 64 of the Companies Act (RSA, 2008a). Directors' shareholding (DIRSHA) is also considered as it could influence the control indicators the board implements to further manage agency cost. The examination in this study of different types of shareholding is consistent with a prior South Africa study by Ntim and Soobaroyen (2013:134), who found "that ownership and board characteristics" help to "significantly explain differences in BEE disclosures". The monitoring role of shareholders is grounded in their voting power, which stems from the Companies Act and is beyond the direct control of the board. Henry (2010:35) found in an Australian study that different shareholder categories are substitute monitors where institutional shareholders are correlated with increased board independence and size, while directors' shareholdings are negatively correlated with board independence and size. In a Swiss study Beiner *et al.* (2006:266) found that various "ownership structures do not have any significant impact on Tobin's Q", but that directors' shareholding improves firm value up to a point.

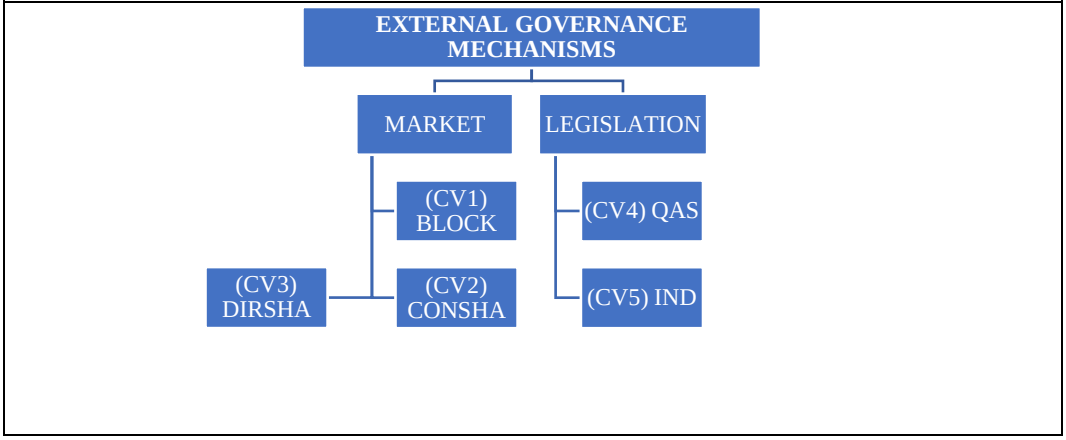
As the maximisation of self-interest is the motivation behind monitoring by shareholders, it is expected that all shareholder monitoring will have a positive relationship with firm value. Although the market can act as an ultimate control via takeovers, the smaller size and limited number of large takeovers coupled with stringent legislative requirements make takeovers a costly option. Because of the limited number of takeovers, they are not considered in this study as a control variable.

The prior discussion focused on shareholder monitoring (BLOCK, CONSHA & DIRSHA) supported by the market. However, the legislative environment also addresses agency problems through reducing information asymmetry via disclosure and audit requirements. Shareholders can appoint a Big-4 audit firm for oversight

via quality audits to reduce information asymmetry and encourage the application of transparent disclosure practices. Quality audits imply oversight by an external audit firm to reduce information asymmetry by obtaining assurance on reported information and thereby improving transparency. Shareholders are also responsible for appointing the audit committee which oversees the assurance process which ensures that reliable information will be disseminated in a transparent manner. To accommodate the use of auditors and audit committees in an oversight capacity to reduce information asymmetry, this study developed a quality audit score (QAS) to encapsulate the complex nature of a quality audit. Although improved transparency could have a positive impact on firm value, the use of audits and audit committees is well established in South Africa as an oversight or monitoring control and is expected to be positively correlated with firm value as it reduces information asymmetry.

Industry (IND) is linked to the legislative environment and is classified as an external control variable owing to the bonding cost of industry-specific legislation. This is used as a bonded variable due to the legislative influences that are industry-specific as all companies must balance their control indicators against their legal compliance requirements. As different growth levels and market conditions influences different industries over time industry is a common control variable (Ntim *et al.*, 2017:18). The control variables described above all stem from the external governance environment and are summarised in Figure 4-4.

Figure 4-4 Control variables in the external governance environment



The next section (section 4.2.6) highlights the last control variable, CV 6. The last control variable is a composite variable[67] which consolidates a number of company-level control considerations that influence firm value in a company control index (CCI). Thereafter the internal governance mechanisms that form the basis of board-level controls and the CI index are discussed in section 4.3.

4.2.6 Company-level controls

To focus this study on the identification of the relationship between the board as a governance mechanism and firm value at specific points in time (using the normal annual reporting cycle to the AGM), other variables that influence firm value but are not specifically board-related monitoring controls or external governance mechanisms, must be taken into consideration to control for the omitted variable risk. Company control variables are variables that often stem from past strategic board decisions and bonding the options of the board in the current period. Some examples are the company's strategy regarding risk, growth or asset retention. The current position reflects past strategies that bond encumbered board members to the consequences of past directions. The separate control of these variables is in line with prior studies (Beiner *et al.*, 2006:277; Munisi & Randøy, 2013:98).

The following considerations are important for company-level controls:

- risk as proxied by leverage (debt to assets),
- growth as proxied by the market-to-book value,
- performance as proxied by the average return on assets for the preceding two years, and
- company size as proxied by total assets rounded in millions.

In addition, board size and board independence are included as company controls as they are controlled by the shareholders who appoint the board. However,

[67] The development of a composite company-level control variable differentiates this study by acknowledging the bonding effect of past decisions or shareholder decisions on the control options of the board in any specific year.

board size and composition decisions could be influenced by the board through the identification of prospective board members by the nomination committee for consideration and approval of the shareholders. Both the nomination committee and the shareholders need to consider the recommendations of King III and the legal requirements in sections 68 and 69 applicable to the eligibility and appointment of suitable board members (RSA, 2008a). King III recommends that the board consist of a "balance of power and authority", with a "majority of non-executive directors" of whom a majority "should be independent" (Principle 2.18) (IoDSA, 2009b).

As is evident from the definitions of company-level control considerations highlighted in the following discussion, that there is as yet no consensus on the use of proxies or their definitions. Waweru (2014b:568) referred to some of the variables used in the CCI as firm variables and found that "firm size, leverage and investment opportunities are main determinants of the quality of corporate governance". This study uses widely applied proxies in line with the method used by Swartz and Firer (2005:156). Although the study also uses the most widely applied definitions for the variables, where appropriate, narrower definitions are used in response to the recommendation by (Ntim, 2009:377-378).

To control for the above variables a company control index (CCI) is developed as a control variable. The CCI is based on the combined influence of the risk, growth, performance, company size, board size and board independence of the individual companies.

> CV_6 = CCI represents the sum of the company control considerations, calculated as a percentage to form the company control index (CCI). Each company control variable is coded as 1 or 0 using the industry median to separate the groups. The index construction methods using 0;1 dummy variables used in this study is in line with the methods used by Gompers *et al.* (2003) and subsequently used by Ntim (2009); Mans-Kemp (2014) and Ashwin (2015) in the indexes they developed.

Separating the CCI from the board-level control indicators in the CI index enabled the study to focus on the control indicators (section 4.3) used by the board to direct and control the company towards goal congruence. The company control variables used in the CCI starting with risk and ending with independence are discussed in more detail in sections 4.2.6.1-4.2.6.6. The detailed CCI coding and calculation of the CCI index are discussed in section 4.2.6.7.

4.2.6.1 Firm risk

Leverage is used as a proxy for risk because using loans to fund the enterprise to improve performance increases risk as the company must comply with the terms of the loan agreement (loan covenants). Unlike shares which do not require a fixed return, debt holders do require compliance with the loan agreement and are more exposed to risky investments by the company that could erode its available cash (Abor & Biekpe, 2006:53). Primarily companies obtain funding through share capital contributed by shareholders, external finance through loans and internally generated funds through retained income to fund the enterprise of the business.

The capital structure balance and risk could be influenced by a controlling shareholder who might prefer increased leverage and risk with a view to possible increased returns whereas companies not dominated by a controlling shareholder might prefer to use retained income or equity funding that does not involve cash outflow demands (Abor & Biekpe, 2006:54). The bonding impact of debt could encourage the board to further reduce agency cost to manage their cash flow by reducing the use of perquisites or slacking (Henry, 2010:30). Increased risk via increased leverage does, however, hold the promise of increased return to the shareholder.

Prior research has found that leverage can result in the lender becoming a monitor as “covenants and collateral” can “increase a lender's incentive to monitor” (Rajan & Winton, 1995:1113). A USA study found that “the cost of debt financing is inversely related to board independence and board size, indicating that lenders

could rely on existing board monitoring structures (Anderson *et al.*, 2004:315; Ashbaugh-Skaife, Collins & LaFond, 2006). Bakar (2012:187) found during a study using USA debt contracts for 2006 that the level of board independence and the financial expertise on a board could influence debt covenants positively while CEO duality and director busyness did not.

In South Africa banks do not play a direct governance role as they aim, as funders, to retain a level of independence from their customers. However, loan covenants are a bonding control mechanism that directs the repayment terms of the loan and can lead to disciplinary action in the event of noncompliance where liquidation is the severest form of corrective action. Loans are regulated in South Africa to help ensure that they are granted within a transparent and fair credit market (RSA, 2005b). This legislative protection serves to protect the banks (lenders) as well as their customers by legislating fair credit granting practices, which place pressure on customers to comply with the loan agreement terms to repay the loan as agreed, and pressure on the lenders to only approve loans that are affordable to their customers.

Leverage can be used to limit the use of perquisites as a portion of the available cash flow must be used to repay the loan. The loan covenants could bond the board to maintain specific financial ratios as a loan requirement or for ease of access to funding options like overdraft facilities. The cost versus benefit of leverage needs to be balanced as the curtailing influence of loan covenants on the available cash could reduce the excessive use of perquisites, increase the risk of liquidation, and/or increase the cost of a new project, especially when interest rates are high.[68] Loans could be used by the board as an indication of an increased risk profile and expected superior returns for shareholders. Such an indication could help to achieve goal congruence as shareholders might be prepared to accept riskier investments in a company while using their portfolio to balance their overall risk.

[68] Historically, interest rates in South Africa can be volatile and high when compared to developed countries. "Interest rates averaged 12.78 percent from 1998 until 2017, reaching an all-time high of 23.99 percent in June of 1998 and a record low of 5 percent in July of 2012" (www.tradingeconomics.com).

Increased leverage may also indicate that, due to cash flow constraints, the board will not engage in excessive use of perquisites that could further reduce the shareholders' need for monitoring and result in a reduction in agency cost. Fosu (2013) summarised the benefits of leverage as increasing the disciplined use of resources to reduce the threat of bankruptcy and found that increased leverage in South Africa does result in improved firm performance. However, in a weak economy increased leverage could result in cash flow problems that threaten business continuity or force the business to sell assets to pay back its loans (Shleifer & Vishny, 1992:1343).

Using leverage to optimise the firm's capital structure can improve firm value if the funds are invested in enterprise activities that yield returns that are higher than the cost of finance. Cheng and Tzeng (2011:30) say that agency cost can increase with increased leverage as information asymmetry increases, suggesting a negative impact on firm value. However, in a South African study Fosu (2013) found that financial leverage has a significant positive effect on firm performance, which could be a consequence of the practice of transparent reporting in South Africa. This also helps to explain why leverage was only rated at a medium level of importance in a study on perceptions of South African private equity analysts (Millson & Ward, 2005:79). The lower importance attributed to leverage in South Africa may be the result of the legislative protection of the lending market coupled with the existing practice of using equity funding. As leverage represents a balancing act between risks and rewards it is a useful proxy for risk. Leverage has been used as a proxy for risk in prior South African studies (Swartz & Firer, 2005:157; Smit, 2015:63). Thus, risk as proxied by leverage forms part of the CCI variables used in this study. Risk is the ratio of total debt to total assets and was extracted from INET BFA/IRESS.

4.2.6.2 Prior firm performance

The value of a company is influenced by its performance, which generates income for the company. Firm performance is the result of past direction and control of the activities of a company by the board. In a study on companies in South

African and Kenya, Waweru (2014a:475) found that “high levels of firm performance are associated with good governance practices”. However, as it is unlikely that prior performance will instantaneously result in changed board-level controls, a lag is expected.

It is likely that poor past performance could motivate the board to implement more controls to show their expertise in order to prevent being replaced by monitoring shareholders (Da Silva & Leal, 2005:7). Ashbaugh-Skaife *et al.* (2006:236) warn that “past performance is potentially a correlated omitted variable” and should therefore be controlled for, suggesting a relationship between past performance and current decisions.

It is also possible that executive directors with share options could be motivated to implement mechanisms towards improved firm performance to maximise their share options, as share options are a control mechanism for reducing goal divergence. Millson and Ward (2005:76) note that it is also possible that the board might use more controls to prevent continued or future poor firm performance, especially in situations where their bonus payments or share options include continued firm performance metrics. The opposite is also possible that strong performance lead to reduce controls and slacking with poorer future performance.

This study uses the average RoA for the preceding two years as a proxy for prior firm performance as past performances are likely to influence the control indicators implemented by the board to direct the current and future firm performance in the CCI. Performance is the average RoA for the preceding two years.

4.2.6.3 Firm growth

South African corporate governance highlights the value of sustainability of the enterprise and encourages the application and disclosure of integrated reporting principles to ensure that companies are managed in a holistic and sustainable

manner (IoDSA, 2009b: chapter 9). However, the increased legislative and regulatory requirements on sustainability and integrated reporting that cover both financial and non-financial aspects in a business could hamper growth through increased control demands, resulting in a more bureaucratic system (McCahery & Vermeulen, 2014:74).

Growing a company can be achieved by various means, one method being takeovers of other companies (discussed in section 4.2.3.1). Other methods include the development of new patents or new products or extending the market to new customers. Company growth highlights the efforts of the board to direct the enterprise of a company and this direction can take various forms, which complicates a direct measurement of growth across various industries. Bushee, Carter and Gerakos (2013) found that institutional investors viewed board governance as critical for firms with high growth opportunities, possibly to help reduce the increased risk attributable to high growth strategies. As this study includes companies from various industries, growth proxies such as the development of new patents or the investment in R&D are not suitable as not all industries use patents or R&D as growth mechanisms.

As growth efforts are not easily observable *a priori* this study uses a market-influenced variable to proxy for growth by using the ratio of the market-to-book value (MVBV) of shares. MVBV represents the market's view of the continued sustainability of the use of the assets to generate future income and thus grow the company beyond its current book value basis. Growth is the MVBV of the company and forms part of the CCI.

4.2.6.4 Firm size

The monitoring role of the board is influenced by the size of the company as larger companies tend to be more complex and more difficult to control and direct. Larger companies may therefore require a larger board to help control the increased size and complexity of the company's operations. Larger companies could also require increased monitoring. The most common variable to proxy for firm size is

total assets, frequently transformed using its natural log to "improve the linear relationship" (Hay *et al.*, 2006:169). More monitoring is usually required for larger companies, which is in line with prior studies (Bennedsen, Kongsted & Nielsen, 2008; Guest, 2009). A Korean study found a positive correlation between company size and dispersed ownership (Cho & Kim, 2007:246), highlighting the need for more monitoring.

In a South African study, Eccles, Pillay and De Jongh (2009:35) found a statistically significant relationship between accountability and company size using market capitalisation as a proxy for company size. Both the shareholders and board could benefit from a larger company as the larger asset base can be used to generate more income and a larger asset base is linked to increased firm value in that the liquidation value of the assets is more than that of a company with a smaller asset base. This study uses total assets in R millions as a proxy for firm size. Firm size forms part of the CCI. This study does not follow the practice of using the natural log of total assets, which is frequently used to improve the linearity of the relationship between firm size and firm performance or value, as firm size is part of an index.

4.2.6.5 Board size

Shareholders appoint the board from the list of nominations provided by the nomination committee. In appointing the board, shareholders must consider the question of optimal size for the board and they therefore control the board size. Yeh and Woidtke (2005:1882) find that controlling shareholders do influence the board selection process, which underlines their monitoring role. In addition to the influence of the shareholders, board size is also influenced by the size of the company. Bennedsen *et al.* (2008:1101) suggest that there is a positive correlation between larger boards and larger firms. Larger boards can add value; as Fields, Fraser and Subrahmanyam (2012:1540) found that borrowing rates were lower for larger boards. Larger boards can also distract from the enterprise or business of the company by making decisions more difficult as more people have to be consulted,

which can make decisive action more difficult, especially for executive directors, and decrease the efficiency of business decisions (McColgan, 2001:21).

Research focusing on developed countries found that board size could increase as a result of new regulations. The introduction of governance regulations has been found to result in increased board sizes and higher levels of independent directors (Gillan, 2006). Board size can be influenced by the industry, where a consumer service-focused industry benefits from larger, more diverse boards. Brammer, Millington and Pavelin (2007:401) found that consumer industries had larger boards with more diverse, non-executive directors. In support of larger board sizes, Dalton *et al.* (1999:678) found a positive relationship between board size and performance using accounting and market-based measures.

The board should, however, not become so large that it becomes difficult to make timely decisions. Bennedsen *et al.* (2008:1108) noted that the "right number of directors is a trade-off between the benefits of having sufficient competencies represented and the cost from increasing free-riding among directors". Jensen (1994a:18-20) describes the ideal board size as a small board (7 to 8 people) with active and attentive directors who can exercise a monitoring function and provide criticism to the board, focus on maximising the long-term value of the company, separate the chairperson from the CEO and are able to respond early to failure. Bhagat and Black (1999:945) found that the average board in the USA has 11 members, with 7 (63.6%) independent, 1 (9.1%) non-executive and 3 (27.3%) executive members, which is larger than the ideal size described by (Jensen, 1994a:19). South African studies show an increase in board size over time, possibly in response to the increased governance recommendations. Swartz and Firer (2005:145 & 157) found an average board size of 10.3 in a 2003 study. Ntim *et al.* (2015:194 & 206) noted an average board size of 9.75 ranging from 4 to 18 for the period 2002-2011. A more recent study reported an average board size of 12.87 before King III and 13.54 after King III with a maximum size of 24 for the period 2006-2012 (Muchemwa *et al.*, 2016:497 & 504). The trend towards increased board size as a response to increased governance regulations is in line with the finding by

McColgan (2001:24). However, board sizes cannot increase indefinitely to match increased regulations as boards would become unyielding, an optimal board size will re-emerge to ensure the company can be managed to improve firm value.

In South Africa, the Companies Act requires a S&E committee,[69] which is a new statutory board committee (RSA, 2008a: section 72(74)). Changes in laws are often the result of political pressure; Brick and Chidambaran (2010:534) note that legislation can result in increased board monitoring as board activity increased after the Sarbanes-Oxley Act. An increase in board size to include more directors to accommodate the skills set needed for the S&E committee is not necessarily an advantage as the cost of a larger board could have a negative effect on firm value. Prior research has shown mixed results, as Yermack (1996:209) found an "inverse association between board size and firm value" whereas Beiner *et al.* (2006:263) found a positive correlation between board size and firm value. The same principles might not apply in South Africa as a recent study by Muchemwa *et al.* (2016:506) found that board size is not significantly related to Tobin's Q or RoE, but positively associated with RoA. The bonding of the board to form a S&E committee is, however, specific to the South African environment and it is still uncertain whether it will result in a positive impact linked to better social and ethical management or whether the additional monitoring and control cost will have a detrimental association with firm value.

Larger boards can make use of more independent directors to act as monitors. Excessive monitoring can, however, be costly. King III cautions against a 'one size fits all' approach as it can be costly (IoDSA, 2009b:9) or deter managerial entrepreneurship. Faleye, Hoitash and Hoitash (2011:161-164) found that excessive monitoring can reduce innovation and erode firm value. Larger boards can increase the possibility of shirking and free-riding on the board, as it is easier for independent directors to shirk their duties and become free riders, hoping that the other

[69] The S&E committee is a new statutory board committee required by section 72(4) of the Companies Act that came into effect for the first time in 2012. This board committee is unique to South Africa.

independent directors will be more active monitors when they are part of a larger group.

The monitoring ability of a larger board can have value. Anderson *et al.* (2004:340) found an inverse relationship between board size and cost of debt, and Beiner *et al.* (2006:277) found a positive relationship between Tobin's Q and board size. In contrast Yammeesri and Herath (2010:288) found no relationship between board size and firm value. However, increasing the number of independent directors to act as monitors can result in too much monitoring and make the board unwieldy. Jensen and Meckling (1994:6) showed that one of the improved efficiencies of leveraged-buy-out companies was smaller, more active and better-informed boards. King III emphasises the importance of retaining the right balance and focus as the board needs to ensure, after considering the expectations of the stakeholders and regulatory requirements, that the overriding factor is the need to act in the best interest of the company (IoDSA, 2009a:5-6).

A review of the literature on the influence of board size on firm value yields mixed results. De Andres and Vallelado (2008:2576) found a U-shaped relationship between board size and firm value where initially more directors added value but after 19 directors the addition of more directors started to reduce value. Their findings indicate a possible optimum board size. Conversely, Yermack (1996:186) found that companies with smaller boards have higher market valuations, as measured by Tobin's Q, indicating that small boards might be more efficient. In support Wijethilake *et al.* (2015:263) found a negative relationship between board size and performance. Brick and Chidambaran (2010:544) believe that "Tobin's Q is not related to board size, board independence," and combining the role of CEO and chairperson, whereas Brown (2005:329) found larger boards to be more contextual, strategic and adept at monitoring; however, he did not consider firm value.

In South Africa studies on the relationship between board size and firm value have shown mixed results. Prior local studies on the size of the board found that

board size is positively related to Tobin's Q as a proxy for firm value (Meyer & De Wet, 2013:37; Ntim *et al.*, 2015:215). In contrast, another local study found that board size is not significantly associated with firm value variables such as Tobin's Q or RoE but it is positively associated with RoA (Muchemwa *et al.*, 2016:506). To maximise their investment, the shareholders would elect a board to best complement the company and one that is suitable for the size of the company. This study takes the total number of people on the board as board size that forms part of the CCI.

4.2.6.6 Board independence

To address goal divergence, the board could monitor the actions of managers to help reduce goal divergence and increase firm value. The use of specialist monitors is in line with one of the recommended methods of reducing shirking in team production (Alchian & Demsetz, 1972:781). Independent[70] directors can, therefore, be used as specialist monitors over the actions of executive directors. Ashbaugh-Skaife *et al.* (2006:204) explain that governance mechanisms can be used "to increase the monitoring of management's actions to promote effective decision making, limit their opportunistic behaviour and reduce the information asymmetry between the firm and its external stakeholders".

This might not always be the case as Smit (2015:69) found that an increase in non-executive directors on the board of AltX companies did not result in improved reported earnings. Waweru (2014b:568) found a significantly positive relationship between leverage, board size and non-executive directors, highlighting the value of their monitoring role. As shareholders appoint the board it is also in their power to choose the types of directors they appoint. This study differentiates between executive directors, non-executive directors and non-executive directors who are independent (referred to as independent directors). In addition, this study deviates from other studies which focused on the proportion of non-executive directors on

[70] In South Africa, non-executive directors who are independent of the company are called independent directors. Other countries and studies might use different labels such as outside directors or unrelated directors, but this study uses the term independent directors.

board as monitors (Kyereboah-Coleman, 2008:1071-1076; Ntim, 2009; Ntim & Soobaroyen, 2013:130; Waweru, 2014b:564; Ntim *et al.*, 2015:203; Smit, 2015:63) by focusing on independent directors. Although true independence is not easy to determine, directors are considered independent when their only relationship with the firm is as an independent director with fixed remuneration and no shareholding or other involvement. This study regards any shareholding held by a non-executive director as a factor that negatively influences independence.

Although non-executive directors may have a level of independence from the executive directors, they might not be totally independent in mental attitude as they might have a trading relationship with the company or represent a shareholder that could bias their monitoring. As the use of independent directors as monitors is already an established practice, it is possible that the appointment of independent directors has lost its initial competitive value and became commonplace. Muchemwa *et al.* (2016:504) reported that the percentage of independent directors is not statistically associated with Tobin's Q or RoA but is positive and significant for RoE. Zahra (1996:1718) explains that independent directors who hold shares in the company will be more motivated to act as monitors; however, local guidelines require independent directors to be independent of the company to enhance objective oversight. The requirements for independent directors can be summarised as follows: An independent director:

- is not a representative of a shareholder who can control or influence the board,
- does not have a direct or indirect interest in the company that exceeds 5% of the group's shares,
- does not have a direct or indirect interest in the company that is less than 5% of the group's shares, but material to his personal wealth,
- has not been appointed in any executive capacity by the company or as the audit partner or legal adviser for the preceding three financial years, or is not an immediate family member of such a person,

- is not a professional adviser to the company other than in the capacity as a director, and
- does not receive remuneration contingent on the performance of the company (IoDSA, 2009b: Principle 2.18).

Consistent with the findings of Zattoni and Cuomo (2010:70), South African requirements regarding high levels of independence for independent directors are in line with the strong local legal environment.

Shareholders appoint independent directors to the board to monitor and control the action of the executive directors in order to control the consumption of perquisites by executive directors, which would prevent the expropriation of shareholder wealth. It is to the advantage of dispersed shareholders to appoint independent directors to monitor the executive board members in order to reduce goal divergence. Independence is increasingly valued and encouraged through governance regulation (Zattoni & Cuomo, 2010:63). King III report recommends in Principle 2.18 the use of "a majority of non-executive directors" of which the majority should be independent directors (IoDSA, 2009b:73).

In the RMB Holdings' integrated report independence is defined in line with the King III recommendations. The following extract shows improved transparency regarding how the company views independence principles:

- does not participate in a share incentive scheme/option scheme of the company; and
- is free from any business or other relationship which could be seen by an objective outsider to interfere materially with the individual's capacity to act in an independent manner (RMB Holdings, 2012:23).

The last section ties in with the more succinct description of the independence principle as "the absence of undue influence and bias which can be affected by the intensity of the relationship between the director and the company" (IoDSA,

2009b:236). The independence definition used by King III is in line with global trends that require independent directors to avoid relationships that could influence their independence (Zattoni & Cuomo, 2010:68). Cheffins and Bank (2009:444) view the monitoring by independent directors as one of the mechanisms available to help align the interests of the board with those of the shareholders. In a review of codes on non-executive directors, Zattoni and Cuomo (2010:76) found a greater emphasis on independence than on competence or incentives. Studies by both Dalton *et al.* (1998:278) and Dalton *et al.* (2007:33), however, found no link between independent board members and financial performance. Yammeesri and Herath (2010:289) found that executive directors and not non-executive directors improve firm value

This study focuses on the proportion of independent directors appointed by shareholders because shareholders, who could also act as monitors, might appoint fewer independent directors as they don't need independent directors' oversight, whereas dispersed shareholders are more likely to appoint more independent directors to act as monitors on their behalf. This study uses a more stringent definition for independent directors by extending the definition in King III to ensure independent directors have no other relationship with the company including no equity or equity rights. The proportion of independent directors is calculated as the number of independent directors divided by the total number of board members and reduced to a percentage; this forms part of the CCI used in this study.

4.2.6.7 Company control index (CCI)

The CCI is a consolidation of the following variables:

- risk as proxied for by using leverage, (debt to assets), a proxy used in a number of recent studies (Waweru, 2014a:468; Waweru, 2014b:564; Scholtz & Engelbrecht, 2015:37).
- growth as proxied for by using the market-to-book value (MVBV), in line with recent studies (Muniandy & Hillier, 2015:115; Scholtz & Engelbrecht, 2015:37; Smit, 2015:64).

- prior performance as proxied for by using the average return on assets for the preceding two years, as it is important to consider the relationship of the past on the future in the model (Fosu, 2013:144; Wooldridge, 2014:274)
- company size is proxied for by using total assets in millions, a proxy used in prior studies, the proxy used by prior studies used the natural log transformation to improve linearity (Muniandy & Hillier, 2015:115). This study does not transform total assets as the value is part of an index.
- board size as the number of people on the board in line with recent studies (Meyer & De Wet, 2013:37; Smit, 2015:64).
- board independence as the number of independent board members divided by the number of people on the board and expressed as a percentage (Muchemwa *et al.*, 2016:504). This study uses a more stringent definition for independent directors by extending the definition in King III to ensure independent directors have no other relationship with the company including no equity or equity rights.

The CCI is calculated by coding companies as 1 for results equal to or above the median per industry grouping and as 0 for results below the median. The sum of the results of all the company controls represent the CCI score are converted to a percentage to represent the CCI score. Allocating dummy variables according to a split in the groups using the median is in line with prior research (Henry, 2010:31; Smit, 2015:63).

Recent South African studies that considered company-related control variables together with their definitions are listed in Table 4-6.

Table 4-6 Company-related control variables		
Control variables	**Definitions**	**References**
Leverage	Total liabilities divided by total assets at year-end	(Kyereboah-Coleman, 2008; Fosu, 2013; Waweru, 2014a:468; Waweru, 2014b:564; Scholtz & Engelbrecht, 2015:37)
Leverage	Percentage of the ratio of total debt to total assets	(Ntim & Soobaroyen, 2013:130; Ntim *et al.*, 2015:201; Ntim *et al.*, 2017:18)
Leverage	Debt-to-equity ratio	(Millson & Ward, 2005)
Leverage	Non-current liabilities divided by shareholder funds	(Firer & Stainbank, 2003:30; Muniandy & Hillier, 2015:115)
Performance	Profitability is the percentage of the ratio of operating profit to total assets	(Ntim & Soobaroyen, 2013:130)
Performance	RoE	(Swartz & Firer, 2005:157; Muniandy & Hillier, 2015:115; Scholtz & Engelbrecht, 2015:37)
Performance	RoA	(Swartz & Firer, 2005:157; Waweru, 2014a:468; Waweru, 2014b:564)
Performance	Two-year moving average RoA	(Fosu, 2013)
Growth	Percentage of the current year's sales minus the previous year's sales scaled by the previous year's sales	(Ntim & Soobaroyen, 2013:130; Ntim *et al.*, 2015:201)

Table 4-6 Company-related control variables - continued		
Control variables	**Definitions**	**References**
Growth	Change in sales and operating revenue divided by turnover	(Muchemwa *et al.*, 2016:502)
Growth	Market-to-book value of equities or the ratio of market capitalisation to ordinary shareholders' interest	(Muniandy & Hillier, 2015:115; Scholtz & Engelbrecht, 2015:37; Smit, 2015:64)
Firm size	Natural log of total assets	(Fosu, 2013; Ntim & Soobaroyen, 2013:130; Waweru, 2014a:468; Waweru, 2014b:564; Muniandy & Hillier, 2015:115; Ntim *et al.*, 2015:201)
Firm size	Total assets	(Swartz & Firer, 2005:156; Muniandy & Hillier, 2015:115)
Firm size	Sales	(Muchemwa *et al.*, 2016:502)
Firm size	Natural log of sales for the year	(Scholtz & Engelbrecht, 2015:36)
Firm size	Market value of equity	(Eccles *et al.*, 2009; Smit, 2015:63; Muchemwa *et al.*, 2016:5.2)
Board size	Natural log of the total number of directors on the board	(Ntim & Soobaroyen, 2013:130; Ntim *et al.*, 2015:201)
Board size	Number of directors on the board	(Swartz & Firer, 2005:157; Kyereboah-Coleman, 2008; Waweru, 2014b:564; Smit, 2015:64)

Table 4-6 Company-related control variables - continued		
Control variables	**Definitions**	**References**
Board independence	Number of independent non-executive directors divided by the number of directors on board	(Muniandy & Hillier, 2015:115)

The next section discusses the internal control indicators that are available to the board to control the activities of the company in order to reduce goal divergence and improve firm value, followed by the developing and defining the CI index in section 4.3.

4.2.7 Role of the internal control indicators in corporate control

Internal control indicators rely on the internal control systems to direct and control the activities of the company, including reporting the results of the activities to the decision agents or boards and, ultimately, to the shareholders. There is a close relationship between shareholders, directors and internal control indicators that needs to be balanced to control agency cost and maximise firm value. This balancing is evident in an Australian study where Henry (2010:26) found that greater compliance with the governance index reduced agency cost irrespective of the firm ownership characteristics. Given the smaller South African market with its more concentrated ownership and the country's developmental state, the role of internal control indicators increases in importance as it can be used to compensate for weaknesses in the external governance mechanisms.

In corporate control this study focuses on developing an index of control indicators (CI) that the board could use to steer the enterprise of a company towards the strategic direction set by the board. To support these controls the board uses internal control indicators that focus on separation of duties, monitoring and oversight. Shleifer and Vishny (1997:738) highlight the importance of internal

control indicators when they caution that although market competition is a powerful corrector of economic inefficiencies, it alone is not a solution to corporate governance problems. In addition, prior research centred on controlling risks related to directors' shareholding, CEO duality and large boards by using monitoring via independent directors. However, despite "rigorous research on board effectiveness" there is still no clarity on the effectiveness of board-level controls (Kim & Cannella, 2008:282). Thus, an examination of the control indicators used by the board is especially relevant given mixed prior findings, and the higher levels of shareholding concentration in a less active market for corporate control via takeovers in South Africa.

Internal control indicators are influenced by the methods selected by the board to maximise the value of the firm in the context of the company's business environment. Such internal control indicators are mainly controls that monitor, control and bond the board as specialist managers using hierarchical structures that use separation of duties to enable effective monitoring oversight. More detail on the specific control indicators is given in section 4.3.

Different firms are expected to use different combinations of internal control indicators to address goal divergence by structuring their internal control systems to maximise firm value. As the responsibility for the proper operation of the governance and control systems rests with the board, it is their responsibility to ensure that the control system supports their governance objectives and minimises agency cost. McColgan (2001:14) agrees with the importance of adapting control indicators to suit the situation as the "contracting nexus varies dramatically from one firm to the next, what is optimal for one, need not be optimal for another". In companies following a cooperative production system, as is the case in large companies, it is more difficult to measure the contribution of individual members because a team produced the outcomes and monitoring is considered to be an efficient manner of controlling the challenges posed by team production (Nilakant & Rao, 1994:650).

Internal governance mechanisms are more important in firms with greater agency problems (Markarian *et al.*, 2007:296). One of the key mechanisms available to the internal governance system is adding a control level with increased oversight at board-level. This oversight includes monitoring of executive directors by independent directors and monitoring of the CEO by the chairperson. Oversight or monitoring via the internal control system should enhance firm value as it can help to protect the company and its shareholders against:

- wasteful managerial behaviour;
- inefficient investments;
- overly generous remuneration for executives; and
- a focus on short-term operating decisions that could be harmful to the company and its stakeholders in the long-term (Crutchley & Hansen, 1989:37; Jensen, 1994a:15-22; Abor & Biekpe, 2006:53).

Control indicators that can be used by the board to align the interests of the agents and principals include the development of structures such as internal control systems that limit the decision powers of individuals and guide their actions towards goal alignment and improved disclosure practices as prescribed by the JSE listing requirements (JSE, 2011) and the King III code and report on governance (IoDSA, 2009a; IoDSA, 2009b).

An effective control environment or internal control system, using separation of duties to enable monitoring, is important in supporting the control indicators used to reduce goal divergence. Fama and Jensen (1983b:304) note that an "effective system for decision control implies … that the control (ratification and monitoring) of decisions is to some extent separate from the management (initiation and implementation) of decisions". Beasley (1996:446) explains that although the board delegates most decision management and control functions to top management, they maintain control by ratifying important decisions and monitoring top management's compliance. Separation of duties includes the use of hierarchies to control all management levels in the company as well as the use of independent directors as monitors of the executive directors and the chairperson of the board as

monitor of the CEO. This separation of duties between board members is critical as oversight via monitoring requires a level of distance to operate effectively.

It is possible that the use of additional monitoring through the separation of duties may increase monitoring costs and that this could result in a reduction in firm value. Grantham (2004:225) warns that corporate governance must retain its focus on the creation of wealth and not focus only on controls to root out corruption and fraud. Daily *et al.* (2003:375) find little support for the correlation of the monitoring model with improved firm performance. It is possible, however, that the maximisation of self-interest, especially for independent directors, results in an increased focus on their monitoring/oversight role to indicate their value as supervisors/monitors to the labour market.

It is to the advantage of the board as specialist managers to reduce goal divergence by using internal control indicators to reduce agency cost while maximising the benefit of using specialist managers. To accomplish this, the board can use guidance from regulations such as the JSE listing requirements and King III to select the most appropriate governance methods for the company. Bathala and Rao (1995:67) find that the choice of mechanisms used to reduce agency cost depends on the extent of alternative agency conflict-minimising options that are used. Agrawal and Knoeber (1996:378) agree, noting that there are several alternative mechanisms that are interdependent, and the board should select the mechanisms that maximise firm value. Kuliks (2005:348-349) acknowledges the continued challenge of maximising firm value as none of the different methods used to control agency cost fully solve the agency problem. The continued challenge of finding the ideal solution to minimise agency cost is emphasised by Abdo and Fisher (2007:53).

4.3 Using monitoring to control the agency problem

Monitoring by the board can be used to help reduce information asymmetry and agency cost. Board-implemented monitoring centres on the use of separation

of duties and oversight to reduce information asymmetry and moral hazard by ensuring that the enterprise is focused on achieving its business objectives and that managers are not slacking or engaging in the excessive use of perquisites in the process, and that managers are engaged in actions that will maximise firm value and not career progression.

Managing moral hazard is important as Millson and Ward (2005:74) explain that moral hazard can take the form of misappropriation of resources, task avoidance or a focus on selfish interests like career building to the detriment of the pursuit of organisational objectives. The moral hazard risk thus needs to be managed considering the separation of duties on the board.

The board structure and composition influence the controls the board is able to utilise to help control the goal divergence problem and form part of the index of board-level CI identified and defined in sections 4.3.1-4.3.4. Table 4-7 summarises South African studies that centred on the board as a control mechanism, highlighting each study's sample size, period and main findings.

Table 4-7 Summary of South African studies on the board as a governance mechanism

Authors	Sample sizes and study periods	Main findings
Swartz and Firer (2005)	117 companies during 2003.	There is a positive relationship between ethnic diversity and intellectual capital performance, but there is not a statistically significant relationship between having women on the board and intellectual capital performance.

Table 4-7 Summary of South African studies on the board as a governance mechanism - continued		
Authors	**Sample sizes and study periods**	**Main findings**
Ntim and Soobaroyen (2013)	75 listed companies for the period 2003-2009.	Found that the extent of BEE disclosure varied substantially and that the level of disclosure improved over the period. Companies with higher government ownership, higher block ownership, higher board diversity, larger boards and proportionally more non-executive directors had better BEE disclosures.
Ntim *et al.* (2015)	169 listed firms for the period 2002-2011.	Board size is positively associated with firm value.
Smit (2015)	48 companies listed on the AltX for the period 2008-2011.	The boards did not adopt conservative accounting practices that could lead to information asymmetry and the reported earnings did not improve due to an increase in the percentage monitoring non-executive directors.
Muchemwa *et al.* (2016)	338 companies for the period 2006-2012.	Board size is not significantly related to Tobin's Q or RoE but is positively associated with RoA while the non-executive directors as proxy for independent directors were not associated with firm performance.

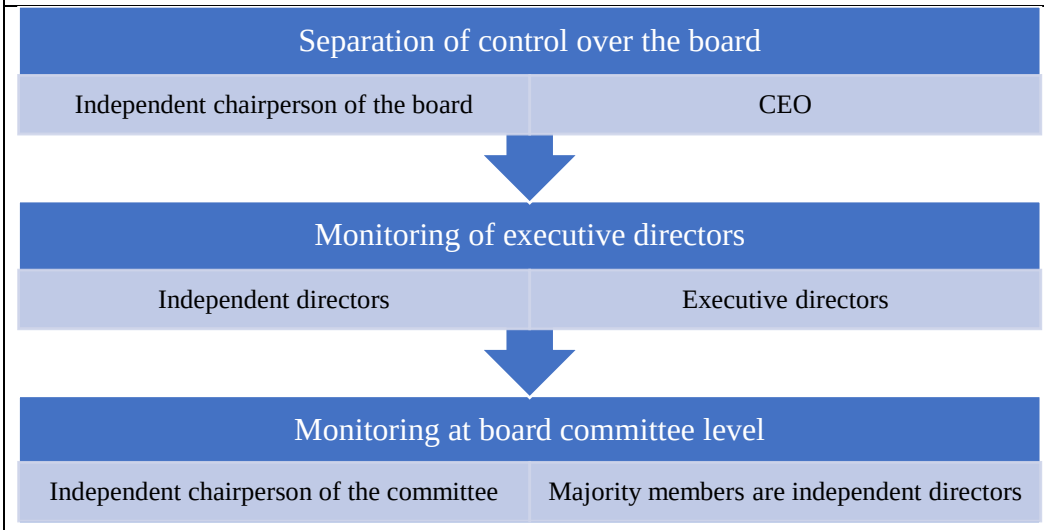
4.3.1 Monitoring as a control

Monitoring as a control as used by the board needs to be adapted to maximise the overall monitoring or oversight of the enterprise of the company in a manner

that reduces goal divergence and agency cost. Bebchuk and Weisbach (2010:943) note that the monitoring of the board should be aligned to the monitoring by shareholders to address goal divergence. Adams and Ferreira (2007:217) caution that too much monitoring can "create a rift between non-executive and executive directors". Various control variables influence the selection of internal monitoring controls by the board at board-level as well as board committee level. Thus, the control measures used should be selected to reduce agency cost while maximising firm value. Internal monitoring methods make use of board and internal control structures that enforce separation of duties through the use of independent directors as monitors who oversee the labour of the executives or managers (Fama, 1980:293), and the chairperson of the board (chair) as the monitor who oversees the CEO (Donaldson & Davis, 1991:49; Bakar, 2012:107).

The separation of duties between the CEO and chair, and between executive and independent board members, allows for monitoring or oversight at board-level, while the use of independent board members supported by an independent chair at committee level allows for oversight at board committee level. The use of separation of duties to enable oversight through monitoring at board and board committee level is visually presented in Figure 4-5.

Figure 4-5 Monitoring as a control



The structure used by the board for monitoring is influenced by the needs of the company and the level of "outside of the board" monitoring by for example shareholders, blockholders or loan covenants discussed in section 4.2 under the various control variables. Beiner *et al.* (2006:277) find that controlling shareholders had larger boards with fewer independent directors, supporting the argument that a controlling shareholder can act as a monitor and would need to rely less on the monitoring ability of independent directors to reduce goal divergence. In considering the structure of the board the diversity, busyness and expertise of board members are important contributors to their monitoring ability (Bakar, 2012:107).

Separation of duties and the use of monitoring are part of the control system used in a company and are evident from the organisational structure deployed within the company. Prior studies encourage the use of control systems to manage the agency problem (Jensen, 1991:14; Jensen, 1994a:6; Jones, 2008:1052). The use of internal control structures to enable monitoring by the separation of roles is extended, as independent board members are also used to provide oversight to board committees, including the risk, nomination, remuneration, audit and S&E committees.

The challenge is that the board itself must be capacitated by having enough members, including independent members, to enable the required separation of duties and oversight. Care should also be taken to ensure that the independent board members have the capacity or availability to execute their monitoring function with due care and diligence, as serving on too many other boards could influence their monitoring capacity (Wright, 2012).

Separation of duties is a form of preventative control that separate the people who monitor and ratify decisions from the people who initiate and implement the decisions, while monitoring is both a preventative and a detective control. The existence of monitoring as a preventative control can influence behaviour in line

with the Hawthorn effect[71] (McCambridge, Witton & Elbourne, 2014), while as a detective control it focuses on identifying existing problems for further corrective action.

Monitoring at board-level as a detective control will have a lagged effect as it takes time for a problem in an organisation to become prominent enough to be identified by monitoring at board or board committee level, which influences the efficiency of high-level monitoring as a control. Implementing corrective controls also lags as the impact of a new control will take time to become evident in firm performance or firm value measures. Jensen (1994a:17) highlights the slow response time of monitoring as he found that CEOs were only removed after huge losses had been reported, indicating a reliance on accounting performance measures in the monitoring. In South Africa, African Bank's share price tumbled from R40 a share to below R3 in 18 months, leading to the resignation of the CEO, followed by warnings of a R7.3 billion loss mere months after a R5.5 billion capital injection (Whitfield, 2014). Thus, using monitoring as a control mechanism at board-level differs from the application of internal controls at a lower level, given the time it needs to be effective. This indicates that monitoring at board-level is a less efficient control which is not unexpected as board only meet a couple of times a year. The next section focuses on the use of board-level controls.

4.3.2 Board-level controls

As directors are appointed by shareholders at the annual general meeting (AGM), the directors should be motivated to control and direct the company in a manner that will satisfy the shareholders in order to encourage them to re-appoint them as directors. The structure and composition of the board as well as the other variables included in the CCI influence the selection of controls by the board to further reduce agency cost towards improved goal alignment. Board-level controls

[71] The Hawthorn effect was first identified in a study that used an experimental design in an attempt to identify factors that influenced people's productivity. The main finding of the study was the fact that people were studied, rather than the manipulated factors, influenced their productivity. This underlines the need to consider unexpected or new concepts when studying human behaviour.

include the separation of duties (section 4.3.2.1) to enable independent monitoring (section 4.3.2.2), the composition of the board in-terms of skills and diversity (section 4.3.2.3), board experience (section 4.3.2.4), and diligent monitoring (section 4.3.2.5).

4.3.2.1 Separation of duties

One of the specific monitoring roles of the board is the monitoring of the CEO by the chairperson of the board (chair). It is important to have a chair to "run board meetings and oversee the hiring, firing, evaluating and compensation of the CEO" (Jensen, 1994a:20; IoDSA, 2009b: Principle 2.16). However, this is bonded by the Companies Act requirements given the additional responsibilities allocated to shareholders (RSA, 2008a: sections 66-70). The differences between the roles and skills sets of the chairperson and the CEO are acknowledged by Carver (2007:1036), who explains that the duties of the CEO and chairperson are "two separate jobs requiring two sets of skills". O'Sullivan and Diacon (1999:366-367) also note that it would be "difficult for an individual who serves both as chairman and CEO to perform these duties effectively". The need for the roles to be fulfilled by separate people comes from the difference in skills set as well as the separation of duties for improved control.

The above clearly highlights the need for a monitoring role by the chair and a chair that can direct or curtail the activities of the CEO when there is a need to respond to the existence of moral hazard. A dominant CEO will only become a problem when the company underperforms, and it becomes necessary to question the decisions of the CEO. This questioning is easier when there is a separation of the role of the CEO and the chair. However, there may be a time lag between poor results and the replacement of the CEO; for example, the CEO of General Motors (GM) was only replaced after two years of significant reported losses in the early 1990s (Jensen, 1994a:17). In South Africa, it is more likely that the board would pressure the CEO to resign, or that the CEO would elect to resign. For example, the CEO of African Bank resigned after a lengthy term as CEO on a pending R7.3 billion loss following on a substantial loss in the preceding period (Whitfield,

2014). The possible lagged impact between poor performance and action suggest that the effect of board-level controls could take time to take effect. After a number of years of publicly raised concerns Markus Jooste resigned as Steinhoff's CEO only after the announcement of accounting irregularities (Crotty, 2017).

The separation between the chairperson and the CEO puts the chairperson in a strong hierarchical position to act as a monitor and controller, using separation of duties to make it more difficult for the CEO to dominate the board. This separation of duties enables the chairperson to exercise control by ratifying and monitoring the decisions of the CEO, who is responsible for initiating and implementing the decisions and actions necessary to manage the assets of the company efficiently and effectively. This is in line with the recommendation to separate decisions from control as suggested by Fama and Jensen (1983b:304). McColgan (2001:18) states that the separation of the functions of the CEO and chairperson of the board adds a level of final board control and monitoring as the chairperson should be able to ensure that the CEO cannot dominate the board to force decisions.

Governance guidelines recommend separation between the CEO and chair as a control and monitoring mechanism. The Cadbury (1992:21) report recommendations include the separation of the role of the chairperson and CEO, as does the guidance of the King code (IoDSA, 2009a: Principle 2.16). Separation between the CEO and chair (or a non-CEO duality) is the first variable of the CI index. As a "1" or "0" score is used for the CI index calculation, the definitions of the indicators only define scenarios applicable to the "1" score. A lack of qualifying for a "1" score is coded as "0".

CI_1 = Separation between the roles of the CEO and chair.

Tarus and Ayabei (2016:1073) found that CEO duality (where the chair is also the CEO) could encourage entrenchment and reduce leverage, which highlights the downside of CEO duality (where the role of the CEO and chair is performed by the same person). The relationship between the separation of the duties of the chair

and the CEO and firm value has not yet been clearly established in the literature (Tsipouri & Xanthakis, 2004:18). The diversity in prior findings is summarised in Table 4-8.

Table 4-8 Separation between the CEO and chairperson of the board	
Findings	**References**
No relationship to firm value or performance.	(Dalton *et al.*, 1998:280)
Combining the role of the CEO and chair has a positive relationship with firm value.	(Donaldson & Davis, 1991:56; Ramdani & Witteloostuijn, 2010:622)
Combining the role of the CEO and chair has a negative relationship with firm value.	(Ehikioya, 2009:239; Yammeesri & Herath, 2010:290)
Separating the roles of the CEO and the chair has a negative relationship with firm performance and no significant impact on firm value.	(Kyereboah-Coleman, 2008)
CEO duality is positively related to performance.	(Wijethilake *et al.*, 2015:263)

4.3.2.2 Independent monitoring

Given the fact that the chairperson's role is also that of a monitor, it may be expected that the chairperson will also be an independent director. This general expectation is included in King III, which requires the board to elect an independent chair (IoDSA, 2009a: Principle 2.16). The focus on using independent directors stems from the fact that independent directors are considered to be a "hallmark of effective corporate governance" (Geletkanycz & Boyd, 2011:335).

The monitoring role of the chair over the CEO is the highest monitoring role in a company and needs to be performed by an independent director to ensure there is no conflict of interest. The independence of the role of the chair is emphasised by the recommendations in King III that the "board should elect a chairman of the

board who is an independent non-executive director", and in situations where the independence of the chair is questionable the board should appoint a lead independent director (IoDSA, 2009a: Principle 2.16). The use of an independent chair or a lead independent director emphasises the use of independence in monitoring. However, this level of independence can be costly as it requires the appointment of enough independent directors to comply with the independent monitoring needs and meet the associated costs.

It is possible for a chair not to be independent when the chair represents a shareholder, in which case a lead independent director should be appointed. When a past CEO is appointed as the chair, the past CEO will only be considered to be independent after three years have elapsed since his or her resignation or retirement as CEO (IoDSA, 2009b: Principle 2.16). Thus, the independence of the chairperson of the board is the next indicator.

CI_2 = The existence of an independent chair or lead independent director.

4.3.2.3 Board composition

The percentage independent directors are included in the CCI. In addition, the demographics of directors are also important. B-BBEE encourages the appointment of people from previously disadvantaged communities to help redress past inequalities (Tangri & Southall, 2008:706).

Prior studies have revealed various advantages and some mixed findings on using a more diverse board, especially when the board does not represent token diversification (Rhode & Packel, 2014:377). A South African study Swartz and Firer (2005:159-160) found a positive relationship between racial diversity and intellectual capital but not between female representation and intellectual capital. Bear, Rahman and Post (2010:207) found a positive relationship between women on boards and corporate social responsibility in a USA study, but did not test the relationship with performance or firm value. In a more recent South African study, Mans-Kemp and Viviers (2015a:392) found that the "percentage of female and

black directors of companies" on the JSE improved during "the research period", with a "statistically significant positive relationship" between female and black directors and earnings per share, but found a "statistically significant negative relationship" with "total shareholder return". Further advantages of using female directors were identified by Chen, Ni and Tong (2016:599), who found that female directors reduce performance volatility with R&D investments and lower the effect of R&D investment on the cost of debt.

However, given the B-BBEE requirement for transformation, there is a risk that South African companies may appoint more diverse board members not to improve the overall effectiveness of the board but to comply with B-BBEE expectations. Table 4-9 summarises the recommendations of King III that influence board composition.

Table 4-9 King III recommendations on board composition

Recommendations	Principles
The board should comprise a balance of power, with a majority of non-executive directors. The majority of the non-executive directors should be independent.	Principle 2.18
A minimum of two executive directors, namely the CEO and CFO.	Principle 2.18 para 73
The board should have the collective knowledge, skills and experience to conduct the business of the company.	Principle 2.18 para 70
The board's diversity and demographics should make it effective. Diversity includes academic qualifications, expertise, relevant industry knowledge, skills and experience.	Principle 2.18 para 71

(IoDSA, 2009b)

Using the above definitions of board diversity in King III, companies can indicate their compliance with the diversity requirement relatively easily by communicating the diversity of board members using their *curricula vitae* (cv's). Other factors such as age, race and gender are also used in diversity studies as they are easily observable (Milliken & Martins, 1996:403-404). However, although age is generally disclosed, the gender and race of the board members must be coded using the information disclosed in the individual director's cv.

Board composition is reflected by the following CI indicators:

CI_3 = A balance of power requires a balance of power among the executive and other directors, where the majority of the board are independent directors. This is stricter than the recommendation of King III that there should be a majority of non-executive directors of whom a majority must be independent (IoDSA, 2009b: Principle 2.18).

CI_4 = Division of duties between the roles of the CEO and CFO through the requirement that a company should have separate people for the roles of the CEO and CFO.

CI_5 = Diverse knowledge and skills, where the board is required to have a variety of qualifications and skills, with at least one director for three different areas of expertise, such as financial expertise, legal expertise and industry expertise.

CI_6 = Varied experience on the board where age is a proxy for experience and there is an age gap of 25 years or more between the youngest and oldest director on the board.

CI_7 = A diverse board is a board that represents a mix between gender and race/ethnicity. A mix between gender and race requires at least two people from a different gender as well as at least two people from a different race to be members of the board. This is more stringent than the definition used by Ntim (2009:392), who defined ethnic diversity as at least one white and one non-white board member at the end of the year, and gender diversity as at least one male and one female director at the end of the year.

4.3.2.4 Experience

The experience of executive directors is important to help direct the business of the company while the experience of independent directors is centred in their monitoring ability. The experience of executive directors could be proxied by their tenure as poorly performing executive directors are more likely to be pushed into resigning; it is, however also possible for long tenure to indicate entrenchment. The link between tenure of executive directors and firm performance is supported by Kyereboah-Coleman (2008), who found a positive relationship to RoA. Thus, the tenure of the CEO and the average tenure of executive directors are indicators that proxy for executive director experience.

CI_8 = CEO tenure equal to or above the median CEO tenure for the industry grouping.

CI_9 = the average executive director tenure equal to or above the median executive director tenure for the industry grouping.

The experience of independent directors cannot be measured by their tenure as a longer term could threaten their level of independence or their perceived independence. To address the risk to their independence, independent directors retire after three-, six- or nine-year[72] terms. As the effectiveness of the monitoring ability of independent directors can be dependent on their standing as directors, it is likely that a person who has already established a good reputation in the market as an effective and efficient director is a good candidate as an independent director. But it is also important for them to maintain an independent mindset which could be influenced by longer personal relationships forged by people working together over time.

[72] As non-executive directors including independent directors rotate at a rate of a third of the members each year, the terms of non-executive directors including independent directors are generally measured in three-year cycles.

4.3.2.5 Board diligence

The level of other directorships outside the company could impact on the board member's diligence. Overall, there are two contrasting theories, the expertise theory (Li & Ang, 2000:17) which suggests that multiple board appointments indicate a capable skill set, and the overboardness or the busyness theory, which focuses on the lack of sufficient time, which influences the diligence of board members negatively (Falato, Kadyrzhanova & Lel, 2014:423). In support of the busyness theory, Zhang (2008:869) found that serving on too many boards can have a detrimental impact in accordance with the overboarded principle. Core, Holthausen and Larcker (1999:388) found that directors with three or more board positions are positively related to increased CEO's remuneration, suggesting that busy directors might slack in their monitoring role.

Falato *et al.* (2014:423) found that "independent director busyness is detrimental to" the quality of board monitoring. In contrast, the expertise theory indicates that multiple directorships are an indication of a director's expertise. Kaiser (2013) notes that three or more board positions can be seen as evidence of the director's effectiveness and abilities. Prior research produced mixed findings. Li and Ang (2000:17) found that the number of outside directorships is not related to lower merger premiums. Ferris, Jagannathan and Pritchard (2003:1110) note that directors who attract multiple directorships are normally older and serve on larger boards in larger firms and found a positive relationship between the number of directorships and firm performance, indicating that expertise and not the limited available time is the major consideration. Kiel and Nicholson (2006:544) found no relationship between multiple directorships and firm performance, indicating that the debate on multiple directorships requires more in-depth research to evaluate how much value is added or eroded. Fich and Shivdasani (2007:317-318) found a substantial reduction in other board appointments for independent directors of companies where fraud prompted a lawsuit, indicating the adverse consequences of a damaged reputation. Too many other directorships can, however, be an indication of a free rider problem or entrenchment. Kim, Mauldin and Patro (2014:127) found

that it is possible to balance the demands of the monitoring and advisory role of independent directors as these roles can be complementary.

It is possible that independent directors with too many other directorships might not have the time available to be effective monitors for all the companies where they are appointed. There is a risk that busy directors could become free riders, especially in the case of one person among a sizable group of independent directors. Given the smaller market and the need for independent directors a tendency developed in South Africa for independent directors to classify themselves as a *"Director of Companies"* to market their availability as independent directors. It is important for independent directors to only accept appointments for positions that they have the required the expertise and time for to ensure they can apply proper oversight. Wright (2012:1) summarised availability considerations, stating that one independent directorship normally requires between 227 and 250 available hours a year, with some S&P companies placing limits of between 3 and 5 on multiple directorships. However, Li and Ang (2000:7) tested the influence of multiple directorships on monitoring and did not find any relationship between improved monitoring for people with fewer additional directorships. Directors are, however, bonded by the due care requirement in the Companies Act, under which delinquent directors can be held personally liable (RSA, 2008a: section 77). The strength of this bonding is evident from the recent legal action initiated by the liquidators of Pamodzi against the directors of Aurora to hold them personally liable for debts of about R1.5 billion owed to Pamodzi by Aurora (Stone, 2015), and a lawsuit against the directors of African Bank in their personal capacity by the BEE shareholders (Maake, 2016).

In contrast, the holding of other directorships by executive directors can indicate slacking as this suggests that they are spending time away from the primary position as executive directors, especially since an executive director should not need to serve on other boards to bolster his or her experience. The acceptance of an independent director's position by an executive director may be an indication of shirking or not paying enough attention to the management of the company where

an executive position is held. This highlights the negative impact of possible capacity constraints or limited available time (availability theory) as a result of other commitments.

To ensure that shareholders appoint directors with enough capacity, King III recommends that the "other significant directorships of each board member" should be disclosed (IoDSA, 2009b:42). This disclosure requirement will help to reduce information asymmetry and help the shareholders and the nomination committee to evaluate possible capacity constraints of the proposed directors.

The number of meetings held by board committees can be an indication of how actively or diligently they monitor the activities of the company. Wijethilake *et al.* (2015:262) found a positive relationship between the number of board meetings as an indicator of board activity and performance. Additional meetings should be scheduled in problem situations to ensure that they are appropriately resolved in a timely manner. It is possible that companies who are in difficulties would increase the number of meetings at board-level as well as at board committee level to help monitor and direct the company through its problem phase.

Thus, the other directorships for executive and independent board members, the tenure of independent board members that could threaten their independence as well as the use of independent directors who classify themselves as a *"Director of Companies"* without listing the companies that could indicate a possible over commitment, are variables that form part of the CI. In addition, the number of meetings of the board and the number of meetings of the board committees serve as proxies for board diligence, and form part of the CI.

CI_{10} = Companies without an executive director who holds an outside directorship that could erode the director's diligence.

CI_{11} = Companies without a majority of busy independent directors. Where a busy independent director holds three or more other

directorships (outside the group), and a busy board has a majority of busy independent directors.

CI_{12} = Companies without an independent director who has served on the board for more than nine years. Although the experience of board members is important for independent directors, a long association with the company could have a negative influence on their objectivity and independence. King III recommends that any independent director who has served nine years or more should undergo a rigorous independence review (IoDSA, 2009a: recommended practice 2.18.18) to address the risk that the continued relationship with the company has negatively influenced the person's independence.

CI_{13} = Companies without an independent director who describes his or her position as a "*Director of Companies"* but does not disclose the number of outside companies he/she serves on as a director. Not disclosing the other directorships increases information asymmetry and is not in line with the disclosure recommendation of King III (IoDSA, 2009b:42)

CI_{14} = Companies where the number of board meetings is equal to or above the median of the industry grouping, which shows diligent board monitoring.

CI_{15} = Companies where the sum of all the board committee meetings is equal to or above the median of the industry grouping, which shows diligent board committee monitoring.

The increased demand for independent directors in South Africa has resulted in people developing their abilities as independent directors and accepting multiple directorships, requiring a balance between the additional knowledge and experience generated by the additional directorships and the time required to best serve the company. The next section deals with the types and composition of board committees as control indicators.

4.3.3 Board committee controls

Companies generally make use of audit, risk, nomination and remuneration board committees to enhance their corporate control. In South Africa, the audit committee, which was discussed in section 4.2.3.4, has enhanced status as a statutory committee (RSA, 2008a: section 94), and form part of the QAS, a control variable.

Another unique aspect in South Africa is the statutory requirement regarding a S&E committee (RSA, 2008a: section 72). In addition to the statutory committees, other board committees are recommended by King III. Principle 2.23, which states that the risk, remuneration and nomination committees should be appointed as standing committees (IoDSA, 2009b: paragraph 130). The composition of the board and board committees has been highlighted by the agency theory literature as one of several mechanisms that can be used to manage agency problems (Bathala & Rao, 1995:60). The level of independence of specific board committees is important to ensure that the committees can act as monitors of the activities of executive directors. King III recommends in Principle 2.23 that board committees "(excluding the risk committee) should have a majority of non-executive members of which the majority should be independent" under the leadership of an independent director as chairperson (IoDSA, 2009b: paragraph 131).

The application of separation of duties to control and monitor executive directors as a control over the board committees, including the nomination, remuneration and S&E committee, rests with independent directors. A threat to the monitoring challenges faced by the independent board members exists when the CEO is able to influence the nomination process. This kind of influence over the nomination process may reduce the ability of the board members to be effective monitors for the shareholders, as their allegiance could be to the CEO who is able to influence their re-appointment. Walkling (2008:32) describes this problem as "even the outside directors basically see themselves as employees of the CEO". To counter the controlling influence, it is important that the CEO is not a member of the nomination and remuneration committees and that these committees are staffed

by a majority of independent directors. However, executive directors are often invited to attend board committee meetings as attendees for improved transparency and to contribute where needed. Because of their superior knowledge of the operations of the company, executive directors could serve on the risk committee to assist with the identification of risks but should not dominate the committee (IoDSA, 2009b: Principle 2.23 par. 133).

It is critical to the company and its shareholders that the nomination committee should be able to identify capable directors, whether for a position as an executive or independent director. It is important here that committee members should not be too busy with other commitments. The importance of independent directors is emphasised by Brick and Chidambaran (2010:544), who found that "firm value is adversely affected when the CEO is on the Nominating Committee", warning against CEO-dominated appointments. However, Brown and Caylor (2006:429) found no association between firm value and independently staffed nomination or remuneration committees. Furthermore, in contrast to the call for more independence, Anderson and Bizjak (2003:1346) found that the "[p]ay mix, pay levels, and pay sensitivities are largely unrelated to committee independence". In the corporate control construct, the fact that the nominations and remunerations committees exist and consist of a majority of independent directors should enable them to act as a moderating influence to encourage goal alignment. It is not clear from prior research what contribution, if any, this would make to firm value. The role of the remuneration committee is more complex, as it deals with control and labour aspects relating to all directors. The influence of the remuneration committee in directing board labour is dealt with in more detail in chapter 5.

The S&E committee is a new requirement of the Companies Act (RSA, 2008a: section 72) and mandates a focus on the monitoring of social and ethical matters by the board committee. The legislative requirement for the S&E committee bonds the choices of the board by requiring specific monitoring of social and ethical considerations. This additional monitoring could possibly distract the board from a focus on the efficiency of the operations of the company and could also make it

necessary to increase the size of the board to accommodate different skills. Given that the focus of this committee is not directly linked to financial performance because of its broader stakeholder focus, the existence of a S&E committee could have a detrimental impact on firm value. The bonding of the board to establish a S&E committee encourages the use of contracts to manage social and ethical issues in the firm, which could have a longer term positive influence on the value of the firm. However, it is also likely to result in increased expenses in the short term, which could detract from firm value. On a positive note, it could also result in increased monitoring, as Brick and Chidambaran (2010:539) have found that "starting a new committee is associated with an increase [in] the level of board monitoring". A review of prior research identified one published academic article that focused on the S&E committee (Kloppers, 2013), but it used a corporate social responsibility perspective and did not consider the impact on firm value.

The board can use different board committees to help oversee and control the business. As the audit committee is a statutory committee it is included under the control variables as part of the QAS variable. Control by the nomination and remuneration committee is included by examining the level of independence in the composition of the committees as a control to help ensure that capable directors are nominated for appointment and fair performance-based remuneration rewards the labour of executive directors. The risk and S&E committees focus on the continued sustainability of the business. All board committees should be able to operate independently and should therefore be chaired by independent directors, staffed with a majority of independent directors in line with King III (Principle 2.23 par. 131) (IoDSA, 2009b).

The key variables linked to the control functions of various board committees are listed below:

CI_{16} = Nomination committee is staffed by a majority of independent directors.

CI_{17} = Nomination committee is chaired by an independent director.

CI_{18} = Remuneration committee is staffed by a majority of independent directors.

CI_{19} = Remuneration committee is chaired by an independent director who is not the chairman of the board, in line with Principle 2.16 par. 45 (IoDSA, 2009b).

CI_{20} = One of the members of the remuneration committee is also a member of the audit committee (to allow the remuneration committee insight into the actual reported performance of the company in their assessment of the fairness of executive director remuneration).

CI_{21} = S&E committee is staffed by a majority of independent directors.

CI_{22} = S&E committee is chaired by an independent director.

CI_{23} = Risk committee is staffed by a mix of executive and non-executive directors with a majority of independent directors.

CI_{24} = Risk committee is chaired by an independent director who is not the chairman of the board, in line with Principle 2.16 par. 45 (IoDSA, 2009b)

CI_{25} = Risk committee is separate from the audit committee, as the recommended composition of the two committees differ.

4.3.4 Summary of control indicators for the CI index

All monitoring methods are geared to limit the use of perquisites and shirking while encouraging the optimal investment of the company's assets to maximise firm value. The maximisation of firm value benefits both the board, through continued employment as directors, and the shareholders, through profit attributable to the shareholders and increased value of their shares.

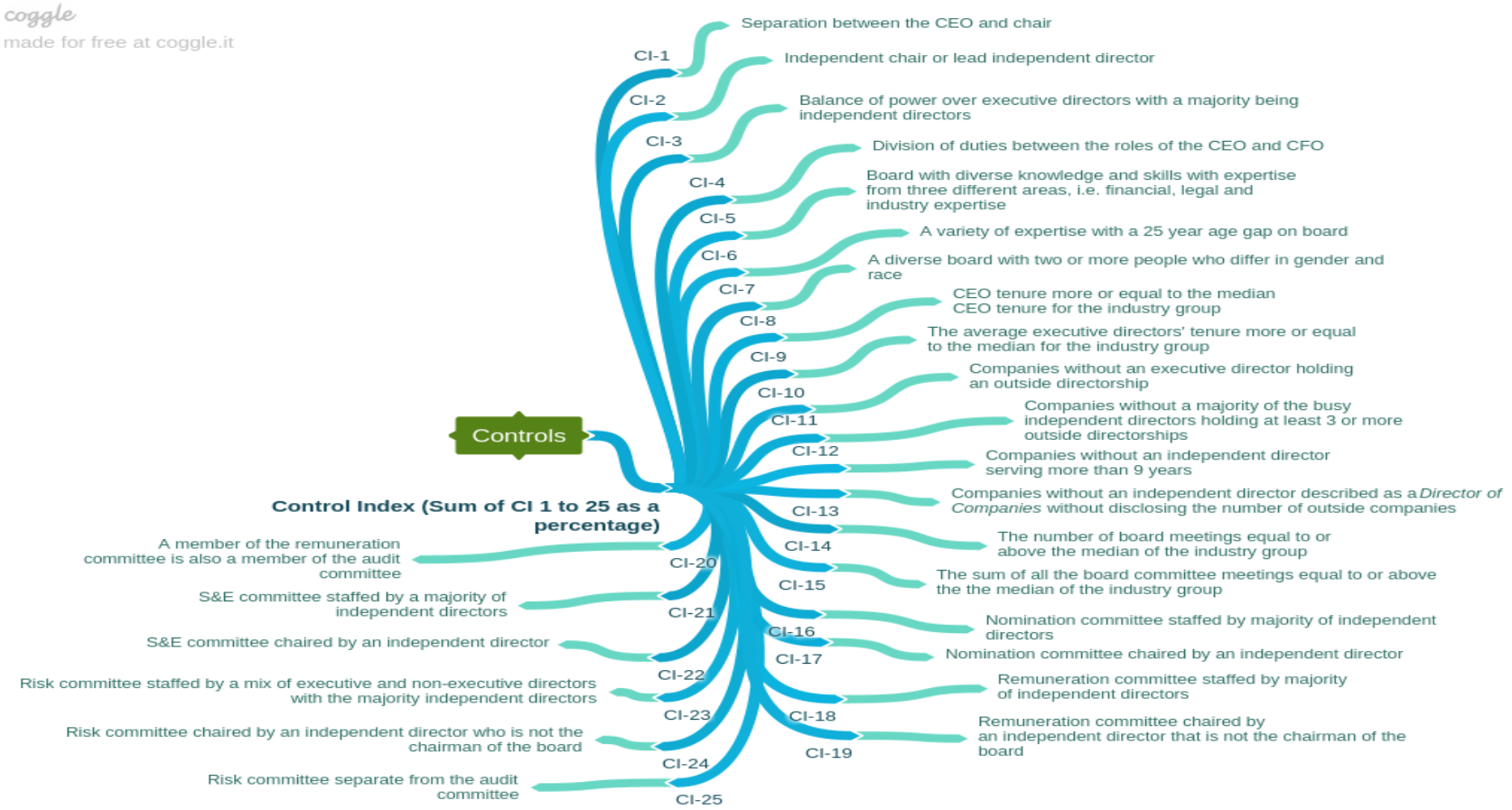
In summary, monitoring methods that must be taken into consideration will depend on the board composition, board committee composition as well as company characteristics. Control systems rely on the use of independent directors as monitors on the board as well as any board committees linked to separation of duties, which is coupled in turn with oversight by independent chairpersons. The

duties of the chairperson must be separated from those of the CEO to allow the chairperson to counter the effect of a dominant CEO and monitor the CEO.

The number and type of other directorships held by board members should be taken into consideration to ensure that they will have the time available to execute their duties with due care. In addition, the number of meetings at board as well as board committee level are included as a proxy for board diligence. The experience and diversity of the board members are considered together with the independence of monitoring directors in identifying the variables used to build the CI.

The control indicators defined above form the CI index and are visually summarised in Figure 4-6, with a more detailed summary in Appendix 5.

Figure 4-6 CI index



4.4 Summarising corporate control

The variables identified in this chapter focus on two broad areas, namely control variables (CV) and board-level control indicators incorporated in the CI index. The control variables are not directly linked to the research objectives or hypothesis but are used as control variables to enable the study to control for other factors that influences firm value to focus on identifying the relationship between CI and firm value. The board-level control indicators have been used to identify and define the indicators of the CI index. The development of the CI index enables this study to achieve SO 1. The development of the CI index is the main contribution and focus of this chapter as it is directly linked to SO 1 and SH 1. The analysis of the data from the CI index is dealt with in detail in chapter 7.

SO 1 – to develop a CI index to measure the level of corporate control of the board.

The development of the CI index assists the study to answer SO 1 and to test SH 1 (detail of the hypothesis testing is discussed in chapter 7).

SH 1 – there is a positive relationship between the CI index that measure the level of the board's corporate control and firm value.

The next chapter, chapter 5, is a continuation of the literature review and focuses on managerial labour and the influence of the agency theory on controlling and directing the labour of the board.

CHAPTER 5: MANAGERIAL LABOUR CONSTRUCT

"A leader's job is to look into the future and see the organization, not as it is, but as it should be."
Jack Welch

5.1 Introduction

Chapter 3 described the current relevance of the agency theory, the separation of ownership and control, causes of goal divergence and the development of agency theory in the context of cooperative production challenges. In the preceding chapter on corporate control the study focused on control variables and board-level controls in the CI index used to reduce goal divergence and agency cost. This chapter focuses on managerial labour that control and direct the boards' labour towards goal alignment.

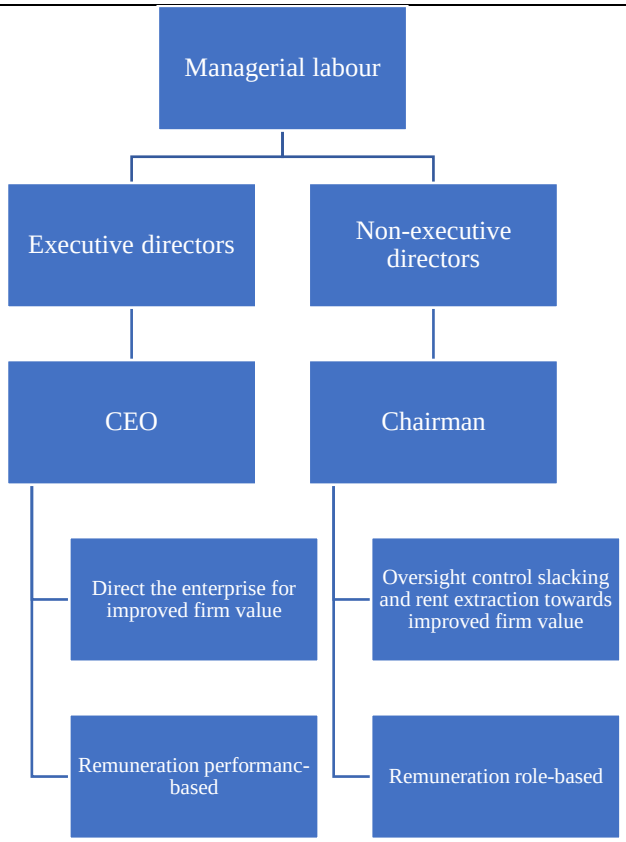
The need for managerial labour control stems from the need to manage the maximisation of self-interest through slacking and excessive rent taking (Chalmers, Koh & Stapledon, 2006:260; Bussin & Blair, 2015:534) by controlling and directing the labour of the board in the different board roles towards goal alignment. Using control mechanisms to direct the activities or labour of the board towards improved enterprise for the company can help the board to manage their reputational risk as their labour reputation is linked to the success of the enterprise of the company and influences their future marketability and remuneration as board members (Adams *et al.*, 2010:78).

Managerial labour deals with controls that direct the labour of the board, using different controls to manage executive and non-executive (including independent[73]) directors as their labour roles differ. Executive directors' role is to direct the enterprise of the company for improved performance, and the oversight role of non-executive directors focus on monitor the execution of the executive

[73] References in this chapter to non-executive directors include independent directors.

directors to reduce slack and rent extraction and maximise firm value. These roles are graphically illustrated in Figure 5-1.

Figure 5-1 Different board roles



This chapter expands on the board's managerial labour role to identify and define control indicators that can be used by the board to direct and control their labour in a manner that control agency cost and reduce goal divergence. The focus of this chapter is to identify and define the managerial labour indicators (MLI) that examines how the boards control and direct their labour by considering their ethical leadership, experience, performance and remuneration. The identification of control indicators enables the study to construct the MLI index to achieve SO 2.

SO 2 – to develop a MLI index to measure the level of managerial labour of the board.

Developing an MLI index enables the study to identify the level of control and direction used by the board using the MLI index and enable the study to test SH 2.

SH 2 – there is a positive relationship between the MLI index that measures the level of the board's managerial labour and firm value.

The remainder of this chapter is structured as follows: section 5.2 highlights the focus on ethical leadership in South Africa while section 5.3 introduces managerial labour. This is followed by section 5.4, which describes the methods used to direct managerial labour or board performance towards goal congruence and firm value maximisation. Section 5.4 identifies and defines the indicators used to construct the MLI index to encapsulate the role of managerial labour, ending with section 5.5 that summarises the MLI index within the context of managerial labour.

5.2 Ethical leadership

This study extends existing governance and board related studies by including ethical leadership. Ethical leadership is a cornerstone of South African governance and is especially important as honesty and integrity cannot be legislated (Rossouw *et al.*, 2002:297; IoDSA, 2009b: Chapter 1; IoDSA, 2016:4). The link between enterprise and integrity has been part of the corporate governance foundations established in King I (IoDSA, 1994:24). Thus, a unique differentiation has been added by using an African ethical focus linked to ubuntu to differentiate the South African corporate governance model from the 'Anglo-American model' (Andreasson, 2011b:647). Although South Africa follows the 'Anglo-American model' in using a single board with a mixture of executive and non-executive directors, dominated by non-executive directors elected by the shareholders (Broni & Velentzas, 2012:65), the board is bonded to ethical leadership. Using an "African worldview" together with a focus on ethical leadership distinguishes the South African agency view by limiting the maximisation principle to operate within

ethical boundaries. Marx and Els (2009:7) note that the ethical role, or 'tone at the top', of directors is seen as critical in the overall environment of companies.

From a legislative viewpoint, the board has a fiduciary duty to the company to protect its assets, including its reputation, emphasising the value of an ethical viewpoint to the shareholders. Non-ethical leadership could indicate that non-compliance with social norms, regulations or even laws is acceptable. Non-compliance could result in heavy fines as experienced by the construction industry after collusive tendering (Anonymous, 2013; Greve, 2013). Cho *et al.* (2013:82) found that shareholders value ethical leadership, which underlines the value of ethical leadership in goal alignment. The inclusion of ethical leadership in a study on the SRI companies is in line with the nature of the index as it integrates "ethical as well as environmental, social and corporate governance (ESG) considerations" (Herringer *et al.*, 2009:11). However, as the SRI index consist of large companies with division of duties between the shareholders and directors within the South African ubuntu world view, the maintenance of an ethical focus can be a valuable goal alignment tool, as information asymmetry is reduced.

Initially there were four ethical pillars, namely "fairness, accountability, responsibility and transparency", that helped to highlight the moral obligations of companies (Rossouw, 2002:407 & 410). Ethical leadership continued to evolve with the various governance updates and changed to "effective, responsible leadership" that is "characterised by the ethical values (or pillars) of responsibility, accountability, fairness and transparency" in King III (IoDSA, 2009b: Principle 1.1). King IV further added integrity (highlighting honesty and moral principles) and competence (to act with due care, skill and diligence) (IoDSA, 2016: Principle 1). Internationally the cost of unethical practices was recently highlighted in the demise of Bell Pottinger for following unethical public relations practices (Czarnecki, 2017) and by Cambridge Analytical for exposing private information collected via Facebook (Farivar, 2018).

This study used Leximancer, a content analysis program, to analyse the annual integrated reports of the companies over the period of the study in order to develop an ethical leadership disclosure score (ELDS). More detail on the construction of the ELDS is included in chapter 6 as part of the research methodology discussion. Thus, the first MLI indicator is ethical leadership. As a "1" or "0" score is used for the MLI index calculation, the definitions of the indicators discussed below only include scenarios applicable to the "1" score.

> MLI_1 = Ethical leadership as represented by ELDS that is scored as "1" when the ELDS result are equal to or above the median ELDS score for the industry grouping.

The median is used as a midpoint to differentiate between high-performance and low-performance groups as the median is a better representative of the midpoint than the mean. The ELDS is not contrasted with variables used in prior studies as prior studies linked to ethics followed a more conceptual narrative format (Rossouw, 2002; Rossouw, 2005; Rossouw, 2009; West, 2009). The next section focuses on how the labour of the board is directed and controlled to maximise the enterprise or business of the companies.

5.3 Directing board labour

Managerial labour focuses on directing the enterprise of a company by evaluating and rewarding the labour of the board in a manner that aligns their interests with the interests of the shareholders to minimise agency cost within the South African context. Ntim *et al.* (2017:1) note that it is important to consider monitoring and incentives for goal alignment in directing labour. Various controls can be used to direct the labour of the board in a manner that reduces agency cost. This should, however, be done in a way that uses ethical leadership to encourage sustainable growth in a company by focusing on monitoring long-term value creation, to comply with South African governance recommendations (Zahra, 1996:1715; IoDSA, 2016:4).

The remainder of this chapter focuses on directing and controlling the labour of the board by aligning the interests of the board with those of the shareholders through an examination of the required expertise and performance of the board along with the use of remuneration and performance linked incentive contracts. Although optimal contracts are not possible, contracting can make a contribution to goal alignment (Haron & Akhtaruddin, 2013:23). Anderson and Bizjak (2003:1324) explain that remuneration contracts are fundamental to "attracting and maintaining" high quality board members while encouraging goal alignment. Goal alignment considerations are important as the board's "objectives and risk preferences may" differ from the views of shareholders (Lai *et al.*, 2017:191). The causes of goal divergence (discussed in section 3.3.4) should be taken into consideration in the development of incentives to ensure that labour alignment is achieved for the whole board. Prior South African studies, however, did not comprehensively consider the control and direction indicators that can influence the labour of the board. These studies are summarised below in Table 5-1.

Table 5-1 Summary of South African studies

Authors	Sample size and study period	Main finding
Scholtz and Smit (2012)	64 companies on the AltX from 2003-2010.	There is a strong relationship between executive remuneration and total assets, turnover and share price.
Scholtz and Engelbrecht (2015)	70 of the Top-100 companies between 2009 and 2012.	Institutional shareholders monitor share options but not bonuses, with increased directors' remuneration with higher director's shareholding, while non-executive directors reduce the total directors' remuneration.

Table 5-1 Summary of South African studies on the board controlling labour – continued		
Authors	**Sample size and study period**	**Main finding**
Bussin (2015)	Review of South African research context before, during and after the global financial crisis of 2008 against various theoretical backgrounds.	The agent and optimal contract theory were found to be dominant in strong economic periods and managerial power and behavioural aspects more dominant in weak economic periods.
Bussin and Blair (2015)	Considered 11 financial performance indicators linked to CEO remuneration in different industries in South Africa. 254 listed companies, in 5 industries from 2008 to 2012.	CEO remuneration is driven by profit and different industries have various other metrics such as fixed assets and capital employed in capital and fixed asset-intensive industries.
Viviers (2015)	Focused on executive remuneration concerns raised by activists or institutional investors in JSE listed companies for 2013.	Voting to support executive director remuneration attracted the most opposition.

Table 5-1 Summary of South African studies on the board controlling labour – continued		
Authors	**Sample size and study period**	**Main finding**
Ntim *et al.* (2017)	169 non-financial firms over a ten-year period, with executive director and CEO pay between 2003 and 2012 with financial and corporate governance data from 2002 to 2011.	Pay for performance sensitivity (PPS) is higher with more reputable, founding and shareholding CEOs, increased director ownership and independent nomination and remuneration committees, but lower in firms with larger boards, powerful and long-tenured CEOs.

5.3.1 Introduction to board labour

Managerial labour focuses on board labour within the different board roles, board expertise, and remuneration aligned to the different roles to reduce self-interested behaviour towards goal congruence. Boivie, Lange, McDonald and Westphal (2011:551) state that "governance theorists have given considerable attention to the role of governance mechanisms in externally controlling executive self-serving behavior", thereby emphasising the need to control for goal divergence. In a Malaysian study Ya'acob (2016:309) found a positive relationship between CEO duality, acquisitions or mergers and compensation, highlighting the risk of self-serving behaviour. Walsh and Seward (1990:422) describe the challenges caused by self-interest as follows: the "compelling issue, [is] how to mitigate this temptation in order to preserve the beneficial aspects of the separation of ownership and control" to improve firm value. This study focuses on the internal direction and control of the board's labour towards goal alignment.

Some of the causes of goal divergence stem from moral hazards such as information asymmetry, where the board members have access to better information than the shareholders and use their advance knowledge for personal benefit. Legislation protects shareholders as the board are bonded by the outlawing of insider trading (RSA, 2004). The board could focus on achieving short-term objectives to maximise their performance bonus, but this is also controlled by the Companies Act which requires directors not to engage in reckless trading but to act with due care (RSA, 2008a: sections 22 & 76). Recently, the courts held directors of a company personally liable for claims that could amount to R1.7 billion based on reckless trading (Crowley, 2015). To an extent the Companies Act also reduces the goal divergence risks by bonding the self-interested behaviour of the directors by requiring them to act in the best interests of the company (RSA, 2008a: sections 77 & 78).

Executive directors can make investments that entrench them, resulting in higher remuneration and increased consumption of perquisites for the directors, highlighting the need to address goal divergence (Shleifer & Vishny, 1989:137; Lai *et al.*, 2017:191). The monitoring ability of non-executive directors could help to reduce information asymmetry by monitoring returns on investments to ensure quality reported earnings. This might not always be the case as in a South African study on the AltX companies Smit (2015:69) found no relationship between an increase in non-executive directors and quality reported earnings. Excessive use of perquisites can be a risk in situations where a company has a powerful CEO (Bebchuk, Fried & Walker, 2002:845; Chalmers *et al.*, 2006:261). Walsh and Seward (1990:421) describe goal divergence, stating that the goals of shareholders are “to earn the maximum profit compatible with a reasonable degree of risk”, “to distribute those profits generously and equitably among the owners” and “to maintain market conditions that are favourable to the investor” while the goals of the board could be influenced by “prestige, power, or the gratification of professional zeal”, enhancing the risk of “featherbedding”, a moral hazard.

The diligence or effort with which board members engage in their duties to prevent free loading or slacking (moral hazards) is another matter that is important to assess, although it is difficult for outsiders to observe this with accuracy. The risk of featherbedding (excessive use of perquisites) can also be reduced by the labour market as poor, prior performance caused by featherbedding or rent extraction (the extraction of additional compensation) could distract from the future marketability of the labour of the directors. The reputations of directors as specialist managers are linked to the performance of the companies they manage, which in itself encourages directors to align their goals to reduce the agency problem. However, as the board links their personal labour reputation to that of the company their personal risk increases and as a consequence they could expect increased rewards in the form of higher remuneration or increased utility to compensate for the increased risk (Jensen & Smith, 1985:8). The increased liability stemming from changes in the Companies Act could possibly result in upward pressure of the remuneration of directors.

Growing the company by investing resources that optimise a director's personal strengths can lead to entrenchment, higher wages and excessive extraction of perks (Shleifer & Vishny, 1989:137). In such a case there is a risk that "there is a disconnect between company performance and the nature of performance incentives" (Viviers, 2015:2). As a local example one could cite Markus Jooste, whose remuneration over the last three years was R286m amid claims of "shady overseas deals" and accounting irregularities that led to his resignation when the auditors refused to sign off on the 2017 financial statements and the share price went into free fall, losing around 90% (Rose, 2017).

It is difficult at the time of investment to discern the expert decision driving the investment and classify that investment as risk averse or innovation driven as it is possible for talented executive directors to grow the company in a manner that optimises their talents as well as the long-term sustainability of the company. Salas (2010:656) recommends identifying entrenched executive directors as people who

extract “higher wages and larger perquisites” but cautions that entrenchment is difficult to identify.

Just as it is difficult to detect the expert decision behind an investment, it is equally difficult to determine expertise. Using age and/or tenure as proxies for expertise can identify successful executive directors who are retained in their positions by the shareholders for their expertise or suggest entrenchment. Salas (2010:657) found that a “combination of tenure and poor performance” can be a useful “proxy for entrenchment”. Thus, an entrenchment symptom could be an underperforming company that pays a premium to the executive directors which can be observed by the shareholders over time. The shareholders can reduce this risk through remuneration contracts. Haron and Akhtaruddin (2013:18) explain that appropriate remuneration contracts can encourage goal congruence without allowing excessive remuneration.

The board might also prefer to invest internally generated resources and possibly not pay dividends as a growth strategy. Funding growth from retained earnings (internally generated funds) is a less risky strategy than using loans. However, growth in firm size without an associated link to increased performance could signal maximisation of executive director self-interest. Chalmers *et al.* (2006:268) highlighted the difficulty of assessing the fairness of CEO compensation as they found that “the only significant economic determinant of CEO compensation” was firm size, which underlines the fact that bigger firms pay more. Maintaining remuneration practices that are fair and reasonable as required by King III in Principle 2.25 in given the skill shortage remains a challenge (IoDSA, 2009a). The wage gap between the remuneration of the CEO and entrance level employees continues to attract wide criticism in South Africa (Bronkhorst, 2014).

The preceding discussion highlights some of the complexity of the board’s labour as any assessment of the actions of executive directors could result in contrasting interpretations. Long tenures could signal either expertise or entrenchment, while withholding dividends could indicate internally funded growth

through an inspirational new investment or risk aversion and possible entrenchment.

Goal divergence risks can be addressed through using managerial labour by evaluating performance and using remuneration incentives that align the self-interest of the board with that of the shareholders. The influence of separation of ownership and control, where the shareholders use specialist managers (the board) to manage the company on their behalf, and the challenges of managing labour in team production are described in more detail in sections 5.3.1.1 to 5.3.1.2 below.

5.3.1.1 Specialist managers

The advantage of separation of ownership and control is that the owners can use specialist managers to man the board. While the whole board directs the company through strategic objectives, the executive directors are the main directional drivers while the non-executive directors are more involved as monitors who control the direction so that it is in line with company strategy. Shareholders appoint executive directors to manage the business of the company as they tend either to lack the necessary management skills or, possibly, do not have the time to properly evaluate or perform the actions of the board. Crutchley and Hansen (1989:37) state that diverse shareholders manage their risk though a balanced portfolio and use the expertise of the board as specialist managers to manage the company. Shareholders therefore prefer to use the advantages of managerial labour as a specialisation by appointing specialists to contribute to and oversee the company's enterprise or business. The main challenge is that a board of directors consists of individuals who have to monitor and direct a company as a team. The challenges of team production are discussed in the next section.

5.3.1.2 Team production

The use of specialist managers, such as the board of directors, to direct and manage a company results in the need to manage and assess team production. However, in cooperative or team production, it is difficult to measure the

contribution of individual members, as the outcomes achieved are the product of the performance of the whole team. To address the need to manage team production, monitoring can be used as a control to help achieve goal alignment (Nilakant & Rao, 1994:650). Kaufman and Englander (2005:13) emphasise the challenge of monitoring and evaluating as "the contributions of individual board members to the performance and value of the company" due to "a lack of detailed information on the productivity of individual members" makes it problematic "to differentiate between the labours of individual team members". The use of agreements or contracts to manage information asymmetry linked to team production is also a challenge. Blair and Stout (1999:250) state that the use of contracts to "prevent shirking and rent-seeking by defining individual team members' duties and rewards through explicit contracts can be impossibly difficult".

The board uses continuous internal monitoring by the non-executive directors to discourage slacking and the excessive use of perquisites to encourage effective performance. Fama (1980:289) views the firm "as a team whose members act from self-interest but realise their destinies depend to some extent on the survival of the team in its competition with other teams". Increased internal monitoring reduces the human capital risk of the board, leading to positive signals to the labour market about the performance of the board. Positive signals could maximize the future earning potential of the board members. The protection of future earnings encourages board members to use monitoring to ensure quality team performance as the whole board's future earning opportunities are influenced by the current performance of the company. Ferris *et al.* (2003:1109) found that previous board positions influence future offers of directorships.

Monitoring is, however, only a valuable method when there is a clear understanding of the responsibilities of the board members and of the way responsibilities are aligned by means of contracts to achieve goal congruence. Contracts are a popular method of managing goal divergence, as they help to manage team production towards agreed-upon goals. The use of contracts can guide behaviour through pay-for-performance contracts that guide individual

performance towards improved firm performance and value. Although all directors contribute towards monitoring the direction and strategy of the company, it is generally the remuneration of executive directors that is strongly linked to the performance of the company through variable and performance-aligned pay such as performance bonuses and share-based incentives, including delayed and conditional requirements to link performance to long-term shareholder objectives.

Unfortunately, it is difficult for outsiders to measure individual contributions to team performance, and this could result in free-riding within the team. The management of free-riding is not the only challenge; it is equally difficult to manage the opposite, namely the enhancement of the enterprise through the identification of further investments or innovation, in order to identify the actual contribution of individual directors. There is a risk that executive directors could use diversified investments by the company to reduce their risk; however, the monitoring of non-executive directors counteracts this risk by serving as an encouragement to invest only in projects that further the company's enterprise (Lai *et al.*, 2017:192).

Alchian and Demsetz (1972:783) suggested that the central party who arranges remuneration contracts should also be a residual claimant, which would offer a solution to help achieve goal congruence. To enable the board to control its labour as a whole, there is a split between the initiation and implementation of decisions and the ratification and monitoring of those decisions (Fama & Jensen, 1983b:302). To accomplish this, the board members need to split their labour into different roles, which are described in the next section.

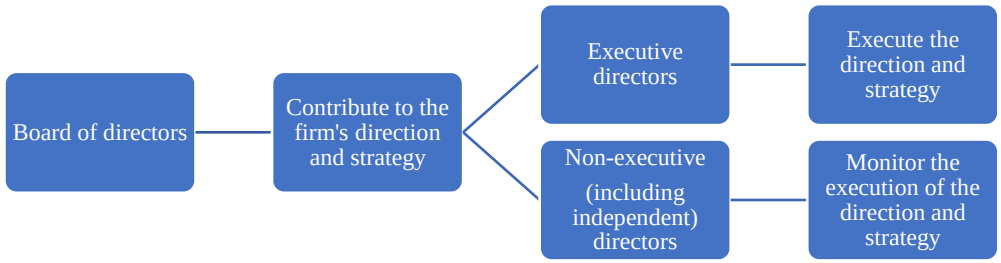
5.3.2 Roles of executive versus non-executive directors

Directors fall into two groups, namely executive directors and non-executive directors. Executive directors initiate and implement decisions, and non-executive directors ratify and monitor those decisions. Non-executive directors are usually further divided into non-executive or grey directors who have a closer relationship with the company, either as representatives of shareholders, former employees or persons who have business relations with the company, and independent directors,

who are independent of the company, its shareholders, enterprise and the executive directors. In this chapter, the study only refers to non-executive directors although the reference include independent directors, given their oversight or monitoring role for the sake of consistency.[74] The roles, expertise and performance of non-executive and executive directors are influenced by the different roles they play on the board and should be considered in the evaluation of their labour and in the determination of their remuneration. It is therefore important to consider the different roles of the board in terms of monitoring and directing performance and in the determination of board remuneration, in order to reduce the agency problem by guiding the labour of the board.

Although the board uses its specialist knowledge to establish strategy and enhance firm performance, the different roles of board members influence their labour contribution and the management of their labour. While the whole board contributes to the direction and strategy of the company, the executive directors are responsible for the execution of the direction and strategy, and the non-executive directors are responsible for monitoring the actions of the executive directors to ensure that improved firm performance and value are achieved. These different roles are reflected in Figure 5-2 below.

Figure 5-2 Directors' roles



[74] References to non-executive directors made in the managerial labour chapter and context include independent directors who are also non-executive directors as the roles of all non-executive directors (including independent directors) are to provide oversight as a control over the labour of executive directors.

Irrespective of the individual roles of board members, it is important that they actively participate as board members. Bradley (2004:9) explains that the inability or unwillingness of non-executive directors to "devote the appropriate time to their positions" is a risk. Slackness by non-executive directors could indicate a free rider problem where a non-executive director assume other directors or shareholders will perform the monitoring role, thereby reducing the level of monitoring over executive directors. The value of active and assiduous boards is supported by the finding that "monitoring by the entire board leads to increased firm value" (Brick & Chidambaran, 2010:551). The above discussion illustrates that it is important to direct the labour of the board in a manner that optimises the enterprise of the firm and encourages an active and diligent board. A more detailed discussion on the different roles of executive and non-executive directors is found in sections 5.3.2.1 and 5.3.2.2.

5.3.2.1 The role of non-executive directors

The different board-level roles (executive versus non-executive) have led to an additional layer of separation of duties by separating the decision management (the initiation and implementation of decisions) performed by executive managers from the control of decisions through ratification and monitoring performed by non-executive directors as specialist monitors (Fama & Jensen, 1983b:304; Bathala & Rao, 1995:59-60). The split between oversight and implementation extends to the role of the chairperson over the CEO, to control against entrenched or controlling CEOs.

As the role of non-executive directors focuses on monitoring the execution and direction of the company's strategy, including the monitoring of the reward system of executive directors, non-executive directors should be motivated by means of a different mechanism from the one used for executive directors. It is critical that non-executive directors retain their ability to act as objective monitors, indicating that their remuneration should not be influenced by the performance of the company, which could negatively influence their ability to act objectively as independent monitors. King III extended the independence requirements to help

ensure that the monitoring role remains undiluted through the use of independent directors (IoDSA, 2009a: Principles 2.16 & 12.18). This is in line with the finding by Brick and Chidambaran (2010:551) that non-executive directors will be more objective if they are independent. Independence is defined in King III as "the absence of undue influence and bias which can be affected by the intensity of the relationship between the director and the company" (IoDSA, 2009b:236). Fama (1980:293-294) explains that the market is a motivator for the maintenance of objectivity and independence as the opportunity wage of the non-executive director is dependent on the market view of the effectiveness of his or her ability to act as a monitor or referee.

To enhance the independence of the non-executive directors, King III recommends that their remuneration consist only of a fixed fee and a meeting attendance fee (IoDSA, 2009a: recommended practice 2.25.24). This excludes any performance-based link that could negatively influence the objectivity or independence of non-executive directors.

As non-executive directors will be remunerated in a different manner, they also need to undergo some form of performance evaluation. This could include peer monitoring by other board members as part of the individual's and the board's performance evaluation as well as tracking meeting attendance. King III recommends annual "evaluations of the board, its committees and the individual directors" (IoDSA, 2009b: Principle 2.22). However, the ultimate control is the labour market and its use of past performance as a basis for decisions on future board positions. Ferris *et al.* (2003:1109) found that good "firm performance has a positive effect on the number of board seats subsequently held by a director". Performance management of the board is discussed in more detail in section 5.4.2, and board remuneration to achieve goal alignment is discussed in section 5.4.3.

5.3.2.2 The role of executive directors

The role of executive directors focuses on establishing a strategy and direction to guide the business activities of the firm and ensure the strategy is

implemented in a way that enhances firm performance and value. As with non-executive directors, their labour or performance needs to be evaluated, including meeting attendance and performance evaluation. To encourage high performance, the remuneration contracts of executive directors should be linked to firm performance and value. Bebchuk and Fried (2005:4-6) caution that arms-length contracting might be difficult in the case of a powerful CEO. Executive remuneration could be contingent on a pre-set future outcome to encourage a longer term focus on performance. Delaying a portion of the compensation of executive directors is a method that can be used to encourage longer term performance and address time horizon risks.

The OECD (2009:10) highlights the importance of linking remuneration and incentive practices to the long-term interest of the company and shareholders. King III recommends the use of remuneration practices for executive directors that create value for the company over the long-term (IoDSA 2009b:96). However, in contrast, Donaldson and Davis (1991:56) found that long-term compensation did not result in higher returns on equity. A popular mechanism used to achieve delayed compensation is to use share option grants that can only be exercised after a specific period if pre-set performance criteria have been maintained. Anderson and Muslu (2010:27) found that for CEOs to realise their delayed remuneration they must deliver in excess of the market expectation and/or stay with the company for a long period of time, indicating that delayed remuneration can have a favourable influence over a longer period. However, as executives control the exercise of their stock options, once vested, they could be motivated to report inflated results or suppress bad news to maximise the option value (Bebchuk & Fried, 2005:5). It is possible for shareholders to fire a CEO or executive director due to poor performance. However, in South Africa the board members are more likely to pressure the CEO to resign after poor performance, as evidenced by the resignation of CEOs of underperforming companies like African Bank, PPC and Steinhoff (Hedley & Derby, 2014; Ziady, 2015; Bowker, 2017).

The different roles of executive and non-executive directors can be used to help address the agency theory problem and achieve goal congruence. Although the focus of this chapter is on the different roles of the executive and non-executive directors, the direction of the company is linked to the CEO while the chair has a stronger duty to oversee the actions of the CEO. The control methods that are available to use to achieve goal congruence are discussed in the following section.

5.4 Board labour factors

The methods used to manage labour centre on a combination of incentives and monitoring and take into consideration the expertise, performance and remuneration of the board in a manner that maximises firm performance and value. These methods are discussed in more detail in sections 5.4.1 to 5.4.3.

5.4.1 Board expertise

The appointment of specialist managers is influenced by the required expertise and performance needed for the respective roles, whether as non-executive (including independent) or as executive directors. The use of the different board roles results in a further level of labour specialisation for directors by differentiating between the activities and duties of executive directors and those of non-executive directors. A further level of specialisation can be an advantage. Smith (1776/2003:16-17) indicates that increased specialisation through division of labour should result in improvements as labour specialists continuously improve their work.

The special expertise of specialist managers is not easily identifiable as it is not linked to specific qualifications; it is more dependent on talent, prior success and experience at board-level. As expertise is not easily observable, the age and tenure of the director can be used as proxies for expertise.

5.4.1.1 Executive directors' tenure and age

Tenure and age are used to proxy for expertise of executive directors, because specialist managers tend to gain experience over time. Fields *et al.* (2012:1540) found that companies with "more directors who have served for more than 15 years (those with greater experience) borrow more cheaply", highlighting the value of experience to the enterprise of the company. Thus, executive directors could be retained because of their superior performance over time (Ayogu, 2001:8). In a South African study Millson and Ward (2005:81) found that private equity investors preferred experienced managers. Age is seen as a proxy for experience as Kang, Cheng and Gray (2007:201 & 204) note that the experience of older directors might be more desirable than the new ideas of a younger generation as more than 80% of the directors were older than 50 years. In addition, Salas (2010:665) found that older executives perform better on average than their younger counterparts.

The time served as an executive director, or tenure, can be an indication of expertise, for executive directors are likely to be removed by the shareholders after persistent poor performance, indicating that executives with long tenures have performed at satisfactory levels. Remuneration practices that use conditional delayed incentives encourage a longer tenure and continued satisfactory performance. Anderson and Muslu (2010:18) found that longer CEO tenure led to greater opportunity to exercise option grants, thereby rendering some support for the use of years served as executive director as a suitable proxy for expertise.

As a "1" or "0" score is used for the MLI index calculation, the definitions of the indicators discussed below only apply to scenarios applicable to the "1" score. The indicators identified as proxies for the expertise of executive directors are their age and tenure. This study also examines the age and tenure of the CEO separately as the main accountable and responsible board member or leader.

MLI_2 = Executive experience is represented by multiplying the age and tenure of executive directors and averaging the result per company to obtain an average executive expertise score. Companies with high

average executive expertise are companies with an average expertise score equal to or above the median for the industry group.

MLI_3 = CEO expertise is represented by multiplying the age and tenure of the CEO to obtain a CEO expertise score. Companies with high CEO expertise are companies where the CEO expertise score is equal to or above the median for the industry group.

It is possible that an executive director may be underperforming and may then be encouraged by the rest of the board to resign as a mechanism to protect their labour reputation and encourage board labour towards the maximisation of firm value. Even where an executive director retires, the incoming executive might need some time to adapt. Thus, companies without any change in the incumbents of executive directors' posts would have a more continuous and stable direction to control the labour of executive directors.

MLI_4 = Companies without a change in the incumbents of executive directors' posts during the year have a more stable and controlled labour direction.

The indicators linked to expertise include executive experience represented by multiplying the age and tenure of executive directors to obtain an executive director expertise score that is averaged per company and compared to the industry grouping median to identify companies with high expertise. CEO experience is represented by multiplying the CEO age and tenure to obtain a CEO expertise score. The CEO expertise is also compared to the median score for the industry group to identify CEOs with more expertise. Lastly, a change in an executive position during the year represents a disruptor to the control and direction of executive labour.

Prior South African research on executive director expertise, age and tenure is limited (Ntim *et al.*, 2017). Ntim *et al.* (2017:18) considered the age and tenure of the CEO but not those of the other executive directors. They found the pay

performance sensitivity "lower in firms with larger boards, more powerful and long-tenured CEOs" (Ntim *et al.,* 2017:1), suggesting that in South Africa tenure is linked to entrenchment and not expertise, which is in line with the findings of Correa and Lel (2016:500)[75]. Balafas and Florackis (2014:103 & 112) did not take CEO age into account but found a positive association between CEO tenure and RoA. Serfling (2014:251 & 256) found that older CEOs tend to generate positive risk-adjusted returns, have longer tenure and more performance-sensitive compensation, supporting the link between age and tenure as proxies for experience, as used in this study. Fedaseyeu, Linck and Wagner (2018:824) examined individual director characteristics in relation to remuneration and found that increased age and tenure are associated with increased remuneration.

5.4.1.2 Non-executives' ages

As non-executive directors are also responsible for monitoring the executive directors in an independent manner, their tenure is not considered because a long-term relationship could be viewed as a threat to their independence. The need to retain shorter tenure periods for monitoring board members is highlighted by Tarus and Ayabei (2016:1073), who make the point that entrenched boards could serve the CEO, thereby adding to goal divergence. Non-executive directors who are also independent are required to maintain a level of independence from the business activities, shareholders and executive directors of the company, which could limit their tenure.

King III requires that a third of the non-executive directors retire annually, and that the independence of independent directors should be evaluated by the chairman (IoDSA, 2009b:77-78).[76] As with executive directors, the age of non-

[75] Correra and Lel (2016) had similar findings but their study focused on executive director remuneration and tenure in multiple other countries

[76] The requirement that a third of the non-executive directors must retire annually should not be seen as a takeover protection measure as its aim is to allow for renewal and diversity on the board without losing tacit knowledge and to help ensure objectivity and independence of the monitoring board members as a long-term relationship could negatively influence their independence. Negotiating with institutional investors is a more practical option in South Africa as they have the expertise to evaluate a takeover option and since 2014 they have tended to disclose their preferences in the media (Mantshantsha, 2014).

executive and independent directors can proxy for their expertise, as experience is gained over time. However, being too old to be a diligent monitor can be a risk, as illustrated by Core *et al.* (1999:388), who found that independent directors over 69 years are positively related to increased CEO's remuneration.

The indicator identified as a proxy for expertise of non-executive directors is age including the age of the chair, given the oversight role over the CEO.

> MLI_5 = Companies where the average non-executive directors' age is equal to or above the median of the average non-executive directors' age for the industry group.

> MLI_6 = Companies where the age of the chair is equal to or above the median for the industry group.

The qualifications, tenure and age of the board members are readily observable and can be used as proxies for directors' expertise. Unfortunately, actual expertise or talent is not easily observable, and it is important for the board to establish performance requirements for the board members that take the different roles on the board into account and can be used to help align board performance to firm performance and value.

5.4.2 Performance

The market for labour also plays a role because the market has an influence on the cost of obtaining managerial services or the cost of appointing a replacement manager, depending on the level of market competition. An oversupply of specialist managers can make it unnecessary for shareholders to share rents with the managers, whereas a shortage can result in the need to pay a premium to attract suitable specialist managers. Therefore, it is important that the remuneration contracts are monitored and that all factors influencing the specialist labour in the company are taken into account, including the actual performance of the board, the individual board members and the company. Performance monitoring is important

as the labour market is not a compensating control for directors close to retirement. In support of this, Weisbach (1988:438) found that the market-adjusted returns were lower in the four quarters before a CEO retires.

Remuneration contracts with the board do, however, need to be monitored in order to be an effective goal alignment mechanism, using methods such as meeting attendance and performance evaluations. Fama (1980:294) highlights the importance of the board as an internal monitor in the description of the board as a "market-induced institution, the ultimate interior monitor of the set of contracts called a firm, whose most important role is to scrutinize the highest decision makers of the firm". The ultimate level of such monitoring is via a performance appraisal where the results will influence the bonus and share-based incentive allocation for executive directors and can be used to evaluate the suitability of reappointing non-executive directors.

Agrawal and Knoeber (1996:377-378) say that the labour market can be a motivating factor for managers because the performance of their company influences their reputation as managers in the labour market, thereby indicating that the past performance of directors influences their future employability and remuneration as specialist managers. Anderson and Muslu (2010:18) note that CEOs of companies with low stock returns realise 60% of their nominal pay, whereas CEOs of companies with high stock returns realise 110% of their nominal pay, indicating that poor performance has a detrimental influence on directors' remuneration. To ensure adequate performance it is important for the board to evaluate the performance of the board as a whole as well as the performance of the individual directors, given the context of the performance of the company. It is essential for the board to evaluate and reward or penalise performance (O'Sullivan & Diacon, 1999:366). To evaluate board and board committee performance, this study focuses on using board and board committee level performance evaluations or appraisals as well as the frequency of meeting attendance as a proxy for diligence.

5.4.2.1 Performance evaluations

One of the challenges is that the board is also a team and it is more difficult to monitor the actual contribution of the individual team members, making it more likely that some individuals on the team will use perquisites, shirk or become freeloaders. Alchian and Demsetz (1972:780) sum up this problem as follows: "costs must be incurred to monitor each other, each input owner will have more incentive to shirk when he works as part of a team, than if his performance could be monitored easily or if he did not work as part of a team". Any remuneration structure should therefore be supported by a performance evaluation to ensure compliance with the requirements in the remuneration contract. In support of this, in principle 2.22 King III recommends an annual performance evaluation of the board, the board committees and individual board members including the chairman (IoDSA, 2009b:44).

A board-level performance evaluation is a critical mechanism as outsiders cannot readily observe the labour of the board. Ayogu (2001:8) states that companies pay extra "rent" when the remuneration of executive directors or CEOs is above market average as their expertise is critical but not easily observable. Monitoring via board evaluations would be preferable to high remuneration levels to help ensure that the team production of executive directors, non-executive directors as well as the whole board enable the reduction of agency cost.

The challenge of evaluating team performance can be overcome by using more detailed and specific key performance areas for individual board members linked to annual performance evaluations. These should encourage the development of the enterprise of the company to improve monitoring and reduce the chances of shirking and featherbedding. The value of using monitoring and evaluation to ensure proper performance is highlighted by McColgan (2001:16), who notes that directors who are considered to be poor performers are more likely to lose their jobs, indicating that over time the performance of directors is taken into consideration in their re-appointment by the shareholders.

King III recommends an annual evaluation of the board, its committees and the individual directors (IoDSA, 2009a: recommended practice 2.33). The evaluation of the labour of directors through a performance evaluation is a method of addressing the problem of managing labour in a team production situation and can strengthen the control of the individual labour contracts applicable to each board member. This evaluation results in performance appraisals that form a key variable in managing goal divergence when used in association with remuneration contracts. Fama (1980:296) highlights evaluations as a key mechanism for managing shirking and the excessive use of perquisites. It is, however, important for monitors who are involved in the board evaluation to have the necessary expertise and incentives to be proper monitors and evaluators of managerial actions. They need to have sufficient standing and credibility in the business environment for the results of their monitoring and evaluations to be accepted and valued. The use of evaluations can help to ensure that high performance is acknowledged and rewarded, and steps are taken to correct poor performance. McColgan (2001:5) emphasises that "monitors must have the necessary expertise and incentives to fully monitor management, in addition such monitors must provide a credible threat to management's control of the company". The performance assessment of non-executive and independent directors could influence their re-election to the board in situations where non-executive board members retire in three-year cycles. The existence of an annual performance evaluation for the board and its members is the identified variable that monitors board performance to ensure goal alignment and maximise firm performance and value.

MLI_7 = The existence of an annual performance evaluation for the board and its members.

The board delegates a number of important responsibilities to board committees such as the risk, nomination, remuneration and S&E committee. Performance evaluations of the work performed by board committees should therefore be carried out to give the board assurance that the delegated duties have been performed in an acceptable manner. This illustrates the importance of the

evaluation of the work of board committees in line with the recommendation of an annual performance evaluation for board committees in principle 2.22 of King III (IoDSA, 2009b:44).

> MLI_8 = The existence of an annual performance evaluation for the risk, nomination, remuneration and S&E committees (board committees).

5.4.2.2 Meeting attendance

A more objective mechanism for measuring active participation by the board members is meeting attendance. Brick and Chidambaran (2010:533) found that "board activity has a positive impact on firm value". In addition, Brown and Caylor (2006:430) found that when all directors attend at least 75% of the meetings this has a positive influence on firm value.

Meeting attendance can be used as an indication of actively involved directors but the mere fact that somebody attended a meeting is not in itself an indication of the level or value of the contribution made by that person in the meeting. The opposite is true, however, as non-attendance is an indication of inactivity or shirking. As it is not possible for non-board members to observe effort, tracking meeting attendance is used as a proxy for effort. Kiel and Nicholson (2006:544) consider attendance to be a "superficial indication of effort", and it should thus be considered together with the board evaluation. Attendance of meetings is not sufficient evidence of the contribution of a director, thus payments for mere attendance by itself are unlikely to help reduce the agency problem. Some South African companies compensate for this by using a fixed annual remuneration (Woolworths Holdings Limited, 2012:83) or penalising non-attendance (WBHO, 2012:83). In a South African study Ntim and Oseit (2011:97) used the natural log of the number of board meetings and found a statistically significant and positive association with performance.

Attendance is a measure of level of activity or effort, although it is not possible to observe the quality of the engagement in the meeting. It is, however,

important to be part of a meeting in order to be able to contribute to the decisions made in the meeting.

MLI_9 = Companies where the average attendance of board meetings is equal to or above the median for the industry group.

To get a comprehensive view of the diligence of the board it is also important to consider meeting attendance for board committees. Meeting attendance for the risk, nomination, remuneration and S&E committees helps to create a more comprehensive view of board diligence to complement the board-level meeting attendance.

MLI_{10} = Companies where the average attendance of the risk committee meetings is equal to or above the median for the industry group.

MLI_{11} = Companies where the average attendance of the nomination committee meetings is equal to or above the median for the industry group.

MLI_{12} = Companies where the average attendance of the remuneration committee meetings is equal to or above the median for the industry group.

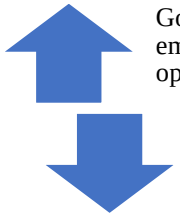
MLI_{13} = Companies where the average attendance of the S&E committee meetings is equal to or above the median for the industry group.

5.4.2.2 Performance summation

Fama (1980:291-292) notes that "managers of a firm rent a substantial lump of wealth – their human capital – to the firm, and the rental rates for their human capital signalled by the managerial labour market are likely to depend on the success or failure of the firm". The market unfortunately does not distinguish between the identity of the different team members when the human capital of the board is linked to the performance of the firm. This situation could result in encouraging some directors to become free riders in circumstances where it is

difficult to distinguish between the different levels of contribution of individual directors to team performance, and ultimately, the performance and value of the company. It could also encourage younger board members who are still building their reputation as specialist managers to be more effective monitors of their fellow board members. Abbott *et al.* (2007:808) found that serving on audit committees can enhance the reputational capital of independent directors but it can also result in reputational damage if financial misstatements occur. The link between prior firm performance and the future employment of directors is summed up in Figure 5-3.

Figure 5-3 Link between prior firm performance and directors' employment



The methods used to remunerate the different types of directors in a manner that helps to address the agency problem are discussed in section 5.4.3.

5.4.3 Remuneration

The link between performance and remuneration is supported by Fama (1980:292), who found that the labour market uses the "previous associations of a manager with success and failure" to judge current worth. The managerial labour market is a double-edged sword, as it also allows future directors to judge the suitability of working in companies by their ability to appropriately reward directors. Directors' remuneration has increased dramatically over the last decade (Sengupta & Zhang, 2015:1084) and is often a controversial topic (Scholtz, 2009:59). Curtailing excessive executive director or CEO remuneration is especially important in South Africa, given its developmental stage, the level of unemployment and the large wage gap. The "growing wage gap" and the negative publicity it attracts tend to result in "stakeholder discontent" (Viviers, 2015:2).

Remuneration levels that are viewed by society as excessive attract negative press (Scholtz & Engelbrecht, 2015:22); that highlights the wage gap between the lowest and highest paid people in a company (Holmes, 2014), and could negatively influence the company's reputational risk.

Ayogu (2001:8) challenges using huge executive remuneration packages as a motivational tool for running the company well as this practice could encourage moral hazard at the executive director level that increases agency cost and might not be aligned to an appropriate goal congruence measure. A number of prior studies focused on the relationship between director pay and performance (Abdullah, 2006; Lee, 2009; Bussin, 2015; Bussin & Nel, 2015); however, this chapter focuses on how the board directs labour, using the MLI to answer SO 2.

Goal alignment can be improved through remuneration contracts or executive directors' shareholding (Abor & Biekpe, 2006:59). The use of equity-based remuneration for executive directors as a key incentive towards goal alignment is already well established in South Africa (Malherbe & Segal, 2001:4; Millson & Ward, 2005:81). However, as the roles of executive and independent directors are different, their respective remuneration contracts need to take their different roles into account to ensure appropriate goal alignment. In principle 2.25 paragraph 155 and principle 2.27 paragraph 186, King III requires shareholders to approve both the remuneration of non-executive directors and the remuneration policy that guides the remuneration of executive directors (IoDSA, 2009b). In addition, the Companies Act requires in section 66 that directors' remuneration, for their duties as directors, be pre-approved by the shareholders via a special resolution (RSA, 2008a). Thus, the broader South African regulatory environment adds a further level of oversight to curtail unfair or excessive remuneration practices and in this process considers the different roles, as non-executive directors should not receive share-based remuneration or other incentive rewards (paragraph 154) (IoDSA, 2009b: principle 2.25).

MLI_{14} = Companies that apply different remuneration practices in line with King III for executive versus non-executive directors given their different roles.

5.4.3.1 Remuneration committees

The remuneration committee is responsible for establishing a remuneration policy and developing contracts suitable for managing the direction of the labour of the board members. Scholtz and Engelbrecht (2015:28) state that the remuneration committee performs a critical role in that they control the quality of remuneration-related information to ensure that the remuneration practices result in sustainable business decisions. The differentiation in remuneration policies and practices based on the different roles of directors is supported by governance requirements that encourage the use of fixed remuneration for independent directors (section 5.4.3.2) with performance bonuses and share-based compensation used for executive directors, linked to conditional pay (section 5.4.3.3), to encourage sustainable improvement in firm performance (IoDSA, 2009a: recommended practice 2.25). The control responsibility of the remuneration committee is included in the CI in chapter 4.

Remuneration policies should differentiate between a fixed fee for non-executive directors, to maintain their independence from the operations, and a base fee, plus various performance-based incentives that could include delayed conditional incentives. The use of share options to encourage the board to improve the enterprise of the business through increased firm-level risk has been found to be effective irrespective of the roles of the board members (Deutsch, Keil & Laamanen, 2011:213). The ability of executive directors to add value is the reason why the shareholders are prepared to use pay-for-performance mechanisms.

Care should, however, be taken to ensure that the pay-for-performance mechanisms do in fact encourage the long-term sustainability of the firm. There is a risk that directors' remuneration could encourage short-term profit-seeking, which can be detrimental to the long-term sustainability of the firm (time horizon

problem). Pay linked to performance measures is broader than share options, and executive compensation contracts tend to consider "both accounting-based and stock-price-based measures of performance" (Bushman & Indjejikian, 1993:3). The OECD notes that the inability of companies to align the rewards systems to the long-term interests of the company and its shareholders was a contributing factor to the 2008 global financial crisis (OECD, 2009:10). King III recommends in principle 2.25 that remuneration for executive directors should include a base pay and performance element consistent with the long-term objectives of the company that includes a share-based and long-term incentive component (IoDSA, 2009b).

> MLI_{15} = Companies where the remuneration of executive directors consists of a fixed and variable component taking multiple periods into account often centres on short- medium- and long-term incentive considerations.

The mechanisms used by the remuneration committee to align the goals of the executive and non-executive directors are discussed in sections 5.4.3.1 - 5.4.3.3.

5.4.3.1 Remuneration linked to performance

There are various methods available for managing the labour of directors, including monitoring and evaluating their performance. The latter can be accomplished through the use of a remuneration policy that is then used to establish performance contracts with the board members on the basis of annual performance appraisals. The common use of pay-for-performance incentives focuses on rewarding the labour of executive directors to help align their interest in the management and directing of the company with the interests of the shareholders and relies on the monitoring role of independent directors to ensure effective management.

The current practice of using independent directors with fixed remuneration to control the performance-linked pay of executive directors is in contrast to the recommendation of Alchian and Demsetz (1972:783), who advise that the party that

arranges remuneration contracts should also be a residual claimant or should benefit in a manner similar to the shareholders. King III tries to address this aspect by recommending that shareholders should approve the remuneration policy (IoDSA, 2009a: recommended practice 2.27). A practice supported by the Companies Act, section 66 (8) and (9), requires directors' remuneration "for services as a director" to be pre-approved by shareholders via a special resolution, reducing the risk of excessive directors' remuneration (RSA, 2008a). However, where shares are widely held by inactive shareholders, the shareholders are likely to approve directors' remuneration in the absence of poor firm performance. The various methods that can be used to encourage optimal board-level performance for the different board roles are discussed in more detail in sections 5.4.3.2 and 5.4.3.3.

5.4.3.2 Remuneration for non-executive directors

To ensure that their ability to act as unbiased monitors is not compromised, remuneration for non-executive directors should be fixed and should not contain share-based incentives or other performance-based incentives. The remuneration contracts with independent directors need to take into account their role as monitors and be in line with the recommendations of King III (IoDSA, 2009a: recommended practice 2.25), which recommends a fixed level of remuneration with a fee for meeting attendance, with no performance-based incentives.[77]

The following indicators (MLI_{16} to MLI_{18}) represent the use of remuneration for non-executive directors to help achieve goal alignment in order to improve firm performance and value.

MLI_{16} = Non-executive directors do not receive a performance-based incentive.

[77] Meeting attendance fees are not viewed as a performance-based incentive. A performance-based incentive must be linked in some form to the performance of the company.

MLI_{17} = Companies with an average total remuneration paid to non-executive directors (in Rand)[78] that is equal to or above the median for the industry group.

Rajgopal *et al.* (2012:119) note that it is only more recently that studies started to consider the role of individuals in board remuneration. Given the enhanced oversight role of the chairman of the board, the remuneration paid to the chair, who has additional agenda-setting and oversight responsibilities, is considered separately.

MLI_{18} = Companies where the total remuneration paid to the chairman of the board (in Rand) is equal to or above the median for the industry group.

5.4.3.3 Remuneration for executive directors

The remuneration contract for executive directors should focus on pay-for-performance mechanisms that can be used to guide the actions of the executive directors to maximise firm value through improved firm performance in the long-term (IoDSA, 2009a: principle 2.25). Wibowo and Evans (2009:96) recommend the use of incentive systems to align divergent interest. A considerable body of prior research on executive director remuneration focuses on indicators that influence CEO remuneration as the dependent variable (Haron & Akhtaruddin, 2013:29; Deschenes *et al.*, 2015:68; Scholtz & Engelbrecht, 2015:39). However, focusing on remuneration as a dependent variable does not show the influence of remuneration as a labour mechanism on firm value. The use of incentives enables the board to reduce monitoring costs by bonding their actions through limitations in their employment and remuneration contracts that align the determination of their remuneration to their performance as managers and direction givers in the company

[78] Where applicable, the value of directors' remuneration was converted to Rand, using the average exchange rate on the year-end date of the specific company, or the disclosed average rate disclosed by the company.

in a manner that considers the performance of the company over the short-, medium- and long-term.

Bonus mechanisms that can be used to encourage the board to maximise shareholder value need not take the form of cash; they can consist of shares, share options, and delayed share options where the bonus is delayed, thereby ensuring that the higher levels of performance are sustainable over a number of years. A conditional performance bonus of this kind can help to protect against time horizon problems by postponing the bonus to a later date, depending on a continued level of company performance. However, delayed performance measures are not always effective. Anderson and Muslu (2010:27) found that only 19% of the CEOs were able to "realise compensation that equalled or exceeded their nominal pay" and "only when they delivered long-term performance" or "when they stayed with the company for long periods (8 years or longer versus 4.4 years for the CEO population)". Thus, a conditional remuneration component might not be a sufficient motivator in situations where the turnover in executive director positions is fairly high.

The use of share-based incentives as part of the directors' remuneration contracts is in line with the recommendation by Alchian and Demsetz (1972). It is also supported by Tsipouri and Xanthakis (2004:16), who recommend the use of long-term incentive contracts, using share ownership and share options to align the interests of the board with those of the shareholders as the providers of finance as a suitable solution to the agency problem. Using share options to encourage all directors to improve firm value through increased risk taking has been found to be an effective incentive mechanism (Deutsch *et al.*, 2011).

The remuneration indicators used to help align the interests of executive board members with those of shareholders include a multi-tier structure starting with base pay, supplemented with various incentives, including a performance bonus, and a conditional delayed share-based compensation that is geared towards encouraging improved firm value for the short-, medium- and long-term. Executive

director remuneration has been widely studied, with a number of prior studies considering total or gross directors' remuneration which includes base pay, bonuses, allocated shares or exercised share options (Scholtz & Smit, 2012; Scholtz & Engelbrecht, 2015; Ntim *et al.*, 2017). Ntim *et al.* (2017:36) found a small positive pay-to-performance link, with improved pay-to-performance in firms with a committed CEO and strong governance. Scholtz and Engelbrecht (2015:44) found that institutional shareholders, director shareholdings, the number of non-executive directors on the remuneration committee and company size helped to explain gross directors' remuneration. Scholtz and Smit (2012:35) found a strong relationship between executive director remuneration, total assets, turnover and share price in a study on AltX companies. Although these studies contributed to the broader body of knowledge linked to executive director remuneration, they focused on earlier regulatory periods and did not comprehensively consider the various options influencing the labour of the board.

The following indicators, which form part of the MLI, represent the use of remuneration for executive directors to achieve goal alignment in order to improve firm performance and value.

> MLI_{19} = Companies where the average total (gross) remuneration[79] paid to executive directors (in Rand) is equal to or above the median for the industry group.

> MLI_{20} = Companies where the total remuneration paid to the CEO (in Rand), is equal to or above the median for the industry group.

> MLI_{21} = Companies where the average percentage total pay as a percentage of the average base pay for executive directors is equal to or above the median for the industry group.

[79] Total remuneration consists of base pay that includes benefit contributions, bonuses received, and share options exercised.

MLI_{22} = The existence of a share-based incentive for executive directors.

MLI_{23} = The existence of remuneration for executive directors that is conditionally delayed for more than two years.

Thus, the remuneration indicators for non-executive directors should be fixed, with no performance-related component that could cloud their monitoring ability while executive directors should receive performance-linked remuneration, starting with a base salary, which is extended with bonuses and share-based performance-linked rewards that include share-based and conditional incentives.

From the above descriptions, the most critical methods used to achieve goal alignment include the use of a remuneration committee linked to the evaluation of effort expended to help develop contracts suited to the different roles played by directors, influenced by their effort to align the goals of the board with those of the shareholders and improve firm performance and value.

Table 5-2 Variable elements linked to director remuneration

Variable elements	References
Natural log of CEO remuneration, including contributions, performance bonuses, granted shares and exercised options.	(Ntim *et al.*, 2017:18)
Natural log of total executive director remuneration, including contributions, performance bonuses, granted shares and exercised options divided by the number of executive directors.	(Scholtz & Engelbrecht, 2015:36; Ntim *et al.*, 2017:18)
Total cash remuneration, which includes base pay, benefits and bonuses.	(Scholtz & Smit, 2012:32)

Several specific indicators have been identified that can be used in the managerial labour construct to enable goal alignment; more detail on how they interact in MLI is supplied in section 5.5.

5.5 Summarising managerial labour

Managerial labour starts by grounding the board's labour in ethical leadership using the ELDS. Thereafter the study deals with the labour of the board, focusing on evaluating the directors' expertise, performance and remuneration to help achieve goal alignment between the board and the shareholders. A review of the literature points to numerous indicators that can be used to guide the labour of the board, considering the different roles applicable to the board, as summarised in Table 5-3.

Table 5-3 Different board roles

Type of director	Non-executive, including independent directors	Executive directors
Duty of the type of director	• Contribute to the firm's direction and strategy • Monitor the execution of the direction and strategy	• Contribute to the firm's direction and strategy • Execute the direction and strategy

After the ELDS the next section focused on the expertise of the board considering the age of all directors and the tenure of the executive directors. This was followed by a focus on board performance. Even though the board members have different roles, they still need to direct the company as a team. High-performing team production is only possible if all the directors are actively engaged, which led to the identification of meeting attendance as an indicator, supported by performance evaluations, to assess the contribution of the individual board members and the board as whole, as well as for board committees. Lastly this chapter focused on using remuneration contracts linked to the different roles to help achieve goal alignment. In this section, the remuneration of the different roles is strongly aligned to expectations of the directors' roles. Non-executive (including

independent) directors are the main monitors of team production and, as such, their remuneration should be a fixed fee, plus a meeting attendance fee, with no component of their remuneration linked to the performance of the company. In contrast, the remuneration of executive directors should be linked to the performance of the company including performance bonuses, conditional delayed components and share-based options to promote a long-term performance focus.

The indicators identified in this chapter (summarised in Figure 5-4 below) have been linked to the directional role of the board and identified and defined 23 board-level control indicators to help construct MLI index. The development of the MLI index enables this study to achieve SO 2. The development of the MLI index is the main contribution and focus of this chapter as it is directly linked to SO 2 and SH 2. The analysis of the data from index is dealt with in detail in chapter 7.

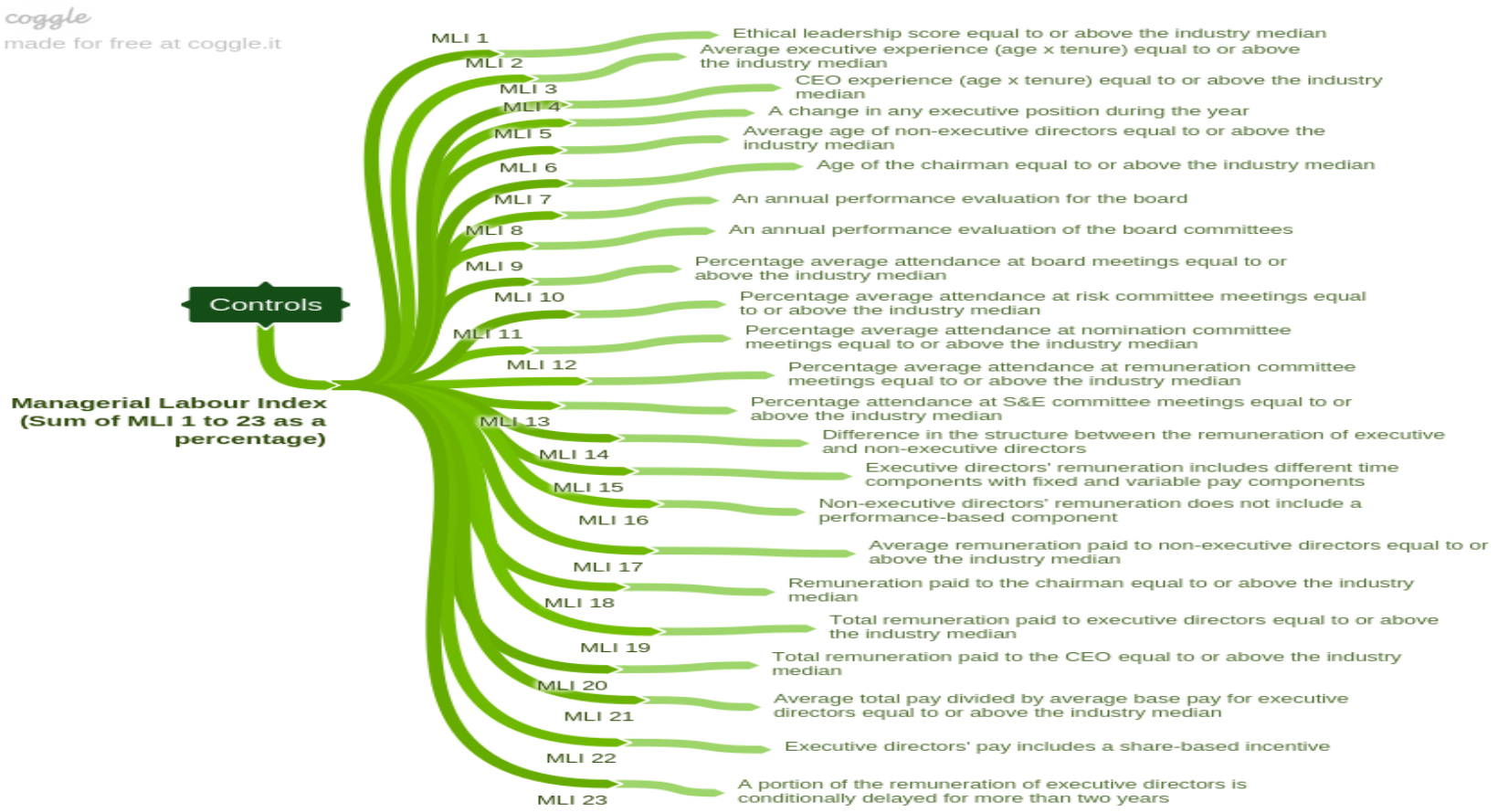
SO 2 – – to develop a MLI index to measure the level of managerial labour of the board.

The development of the MLI index assists the study to answer SO 2 and to test SH 2 (detail of the hypothesis testing is discussed in chapter 7).

SH 2 – there is a positive relationship between the MLI index that measures the level of the board's managerial labour and firm value.

The next chapter describes the research methodology used by the study to achieve the research objectives and test the hypotheses.

Figure 5-4 MLI Index



CHAPTER 6: RESEARCH METHODOLOGY

"Research is to see what everybody else has seen, and to think what nobody else has thought"
Albert Szent-Gyorgyi

6.1 Introduction

Chapters 4 and 5 defined the two indexes (CI and MLI) used by the study to capture the controlling and directional role of the board as a governance mechanism. This chapter discusses the research approach, design and methods (research methodology) used to achieve the purpose of the study. Ryan, Scapens and Theobald (2003:1) describe research as a "process of intellectual discovery, which has the potential to transform our knowledge and understanding of the world around us". The research methodology describes the process followed in this study by unpacking the research methods, design and approach used to achieve the research objective and purpose.

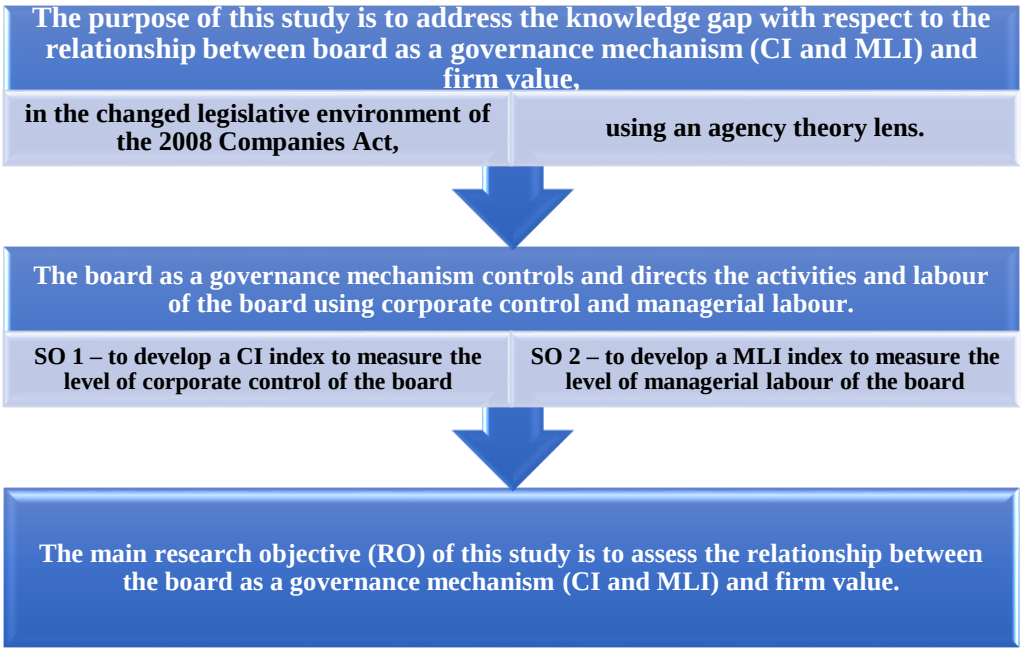
This study uses an agency theory perspective as a lens in assessing the relationship between the board as a governance mechanism and firm value within the context of a changed legislative environment in South Africa. Agency theory is a mid-range theory that is well established in helping to explain the relationship between agents (the board) and principals (shareholders). Bryman and Bell (2015:4) position mid-range theories between grand theories and empirical findings as they help to "understand and explain a limited aspect of social life". This study focuses on the relationship between the board as a governance mechanism (CI and MLI) and firm value.

As the study centres on an improved understanding of the relationship between the board as a governance mechanism and firm value, the thesis is presented using a descriptive format. Dudovskiy (2013:36) describes descriptive

research as research "conducted to describe specific elements, causes, or phenomena in the research area", in contrast to causal research, which focuses on "cause-and-effect relationships". Causation is not the focus of the study. In addition, causation in complex systems may be multi-directional; for example, poor past performance could encourage increased future controls to direct the company in a more profitable manner or vice versa, whereas strong prior performance increases the available assets and cash, thereby increasing the temptation to slack or misuse resources (as the company is doing well) with consequent poorer future performance.[80]

The deconstruction of the purpose of this study into the research objective (RO) and sub-objectives (SO) is summarised in Figure 6-1. The research processes used were conducted in line with the ethical research protocols of the University of KwaZulu-Natal. The approval is included in Appendix 1.

Figure 6-1 Research purpose and objectives



[80] The causality or multi-directional relationship between the dependent and independent variables could possibly be assessed by means of simultaneous equation modelling and is an area for future study. Simultaneous equation modelling was not used in this study as there is a possible time lag in the relationship and the focus is on the relationship not causality.

The study began with a literature review to describe the unique South African context (chapter 2), followed by a discussion of the historical development of agency theory supplemented by highlighting the current relevance to the South African context (chapter 3) to establish agency theory as the lens used in the study. The process used to identify the indicators for the CI and MLI indexes as well as their definitions and related hypotheses are discussed in detail in chapters 4 and 5.

The discussion of the two indexes identifies the indicators for the indexes and suggests a hypothesis for each index. The identification and definition of the indicators for the CI and MLI indexes, discussed in chapters 4 and 5, form the basis for the index construction and analysis used in this study to address the research objective, sub-objectives and related hypotheses. This chapter focuses on the research approach, design and methods used to achieve the research purpose.

The next section discusses the research objectives and hypotheses (section 6.2). This is followed by a discussion of the research approach, world view and design which underpin the study (section 6.3), with a discussion on the methods used to test the hypotheses in section 6.4. Section 6.5 describes the research phases used in the study, followed by a discussion of the sampling considerations (section 6.6). Lastly the steps used in the data collection and analysis are discussed in section 6.7, while the methodology followed is summarised in section 6.8. The results of the analysis and interpretation are discussed in chapter 7.[81]

6.2 Research objectives and hypotheses

The purpose of this study equates to the main research objective (RO), namely to assess the relationship between the board as a governance mechanism (CI and MLI), and firm value. For this analysis the study regards board governance mechanisms as the controls used by the board to control and direct its activities and

[81] Different textbooks use different terminology to describe the research process. For example, the research approach used in the thesis might be referred to as research methodology and the research design as research strategy in some textbooks.

labour using corporate control and managerial labour as represented by the CI and MLI indexes. Thus, the board as a governance mechanism = CI + MLI. The purpose and main research objective can be expressed as hypothesis 1 (H 1).[82]

H 1: There is a positive relationship between the board as a governance mechanism (CI and MLI) and firm value.

This study argues that there is a positive relationship between increased corporate controls that help to reduce agency cost, along with increased managerial labour that controls and directs the labour of the board to reduce agency cost, and firm value. The positive association with firm value is linked to the use of monitoring and bonding to reduce agency cost. For example, improved monitoring and bonding using oversight, separation of duties and performance-based incentives can reduce inefficiencies, wastage, slacking, and rent extraction resulting in an increase in firm value.

As there is an expected positive relationship between the board as a governance mechanism and firm value, the same relationship is expected to extend to the corporate control and managerial labour indexes. Their accompanying sub-objectives (SO) and sub-hypotheses (SH) are summarised in Table 6-1:

Table 6-1 Sub-objectives and sub-hypotheses

Corporate control	Managerial labour
SO 1 – To develop a CI index to measure the level of corporate control of the board	SO 2 – To develop a MLI index to measure the level of managerial labour of the board
SH 1 – There is a positive relationship between the CI index that measures the level of the board's corporate control and firm value	SH 2 – There is a positive relationship between the MLI index that measures the level of the board's managerial labour and firm value.

[82] A hypothesis is a *testable speculative statement delineating the relations between all of the elements in a theory"* (Page & Meyer, 2003:23).

The positive relationship between corporate control and firm value stems from a reduction in agency cost through improved control over wastage (excessive use of perquisites) and slacking. The positive relationship between managerial labour and firm value stems from a reduction in agency cost through improved goal alignment between the remuneration of the different roles of the board and oversight resulting in reduced rent extraction and wastage. Wherever variables in a putative relationship can be quantified, it is possible to use statistical methods such as correlation and regression analysis to test the relationships (more information on the research methods used is given in sections 6.4 and 6.7).

By way of introduction the research phases in the empirical section of the study are briefly described here, followed by a more detailed discussion of the research approach, design and methods used in the study. The study uses four phases to achieve the RO. Phase 1 focuses on defining and collecting the data for the four firm value proxies extracting the data from IRESS a well-known South African database. Phase 2 defines the data required for the control variables (CV) and the indicators needed to construct the indexes for the independent variables (discussed in detail in chapters 4 and 5). Where the CV data was available in IRESS the relevant data was extracted from the database. The remaining data needed were extracted using a structured content analysis in phase 3. Phase 3 extracts and summarises the required data to populate the remaining control variables and the CI and MLI indexes (as independent variables) to achieve SO 1 and SO 2. The content analysis was guided by using a spreadsheet template structured to collect and summarise all the required indicator data. A structured content analysis was necessary as the required data was not readily available in a database. Phase 4 performs the statistical and econometric estimations to test the hypotheses, enabling the study to achieve the research objectives. To achieve the main RO the relationship between the board as a governance mechanism (CI and MLI) and firm value is assessed with the aid of the following model, which tests H 1:

$$\text{Firm value}_{it} = \alpha_0 + \beta_1 BLOCK_{it} + \beta_2 CONSHA_{it} + \beta_3 DIRSHA_{it} + \beta_4 QAS_{it} + \beta_5 IND_{it} + \beta_6 CCI_{it} + \beta_7 CI_{it} + \beta_8 MLI_{it} + \varepsilon_{it}$$

(α_0 = intersect; $_i$ = the boards of a companies (1-84); $_t$ = number of time periods (1-3); β = beta, the coefficient or slope of the variable; ε = error term; the six control variables (BLOCK, CONSHA, DIRSHA, QAS, IND, and CCI) are summarised in Appendix 4. Firm value is the dependent variable (summarised in Appendix 3) and the CI and MLI indexes are the independent variables (summarised in Appendixes 5 and 6 respectively). The independent and control variables in the formula are represented by acronyms using capitals for ease of interpretation during the statistical analysis.)

The hypotheses and research objectives influence the research approach, design and methods. The focus on the development of indexes and the evaluation of relationships prompted the choice of a quantitative statistical focus. A quantitative method enables "the quantitative measurement and analysis of actual economic and business phenomena" allowing econometric analysis, with the testing of hypotheses being one of the major applications of econometrics (Studenmund, 2011:2). Prior studies based on an agency theory perspective also tended to use quantitative approaches (Huang *et al.*, 2011; Mustapha & Ayoib Che, 2011; Stepanov & Suvorov, 2017). However, it is important to consider the various research approaches and designs to ensure that the most suitable alternatives have been chosen for use in the study.

6.3 Research approach, world view and design

Creswell (2014:3) explains that research approaches "are plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis and interpretation". There are three main research approaches; the quantitative approach, the qualitative approach and the mixed methods approach (Creswell, 2009:4). The approaches are informed by the data required to answer the research question where the qualitative approach focuses on words, the quantitative approach on numbers, and the mixed methods approach uses a combination of words and numbers to describe the phenomenon of

interest (Williams, 2007:65). Page and Meyer (2003:17-19) define quantitative research as an approach "*that places greater value upon information that can be numerically manipulated in a meaningful way*" and qualitative research as an approach that "*can be conceptualised as a focus on words and feelings – the quality of an event or experience*". A more detailed description is provided by Leedy and Ormrod (2005:94), who state that:

- quantitative research "is used to answer questions about relationships among measured variables with the purpose of explaining, predicting, and controlling phenomena", whereas
- qualitative research is "used to answer questions about the complex nature of a phenomenon" (Leedy & Ormrod, 2005:94).

The study focuses on the relationship between the board as a governance mechanism and firm value. Relationships between people can be assessed qualitatively through direct observation; however, the relationships between board-level controls (using the CI and MLI indexes) and firm value are quantifiable. Whereas a qualitative study with direct observation can lead to enhanced insight into the operation of a phenomenon, direct observations of controls enacted by people might not show the true value of the control and may limit the number of people who can be physically observed. By quantifying board-level controls, it is possible to assess the operation of the controls over a much wider area, including a negative lagged effect, and use statistical methods for objective further analysis. Quantified controls can more readily be used to assess relationships with other quantitative measures like firm value by using statistical analysis.

Although aspects of controls are quantifiable, the talent or rigour of the control action is qualitative in nature and is not always readily observable. Separation of duties can be observed, for example, but the rigour or talent with which an independent board member performs his or her oversight duty at board meetings is not readily observable, although poor oversight would become visible over time as goal divergence increases.

Poorly applied board-level controls would increase the risk of moral hazard and information asymmetry as the ineffective controls becomes visible to the people directly exposed to them but not to outside people. In such a case the ineffective controls would increase agency cost and reduce firm performance and value over time. To address this information asymmetry challenge, boards use disclosure to reduce goal divergence and show compliance with good governance practices by the board. This disclosure enables the study to identify control indicators to populate quantitative indexes representing board-level controls (CI and MLI indexes) that represent the actions of the board as a governance mechanism. Care must, however, be taken to ensure that appropriate measures and definitions are used to maximise data validity for the various indicators.

This study uses indicators of board-level controls as the data source in the index-building process (described in chapters 4 and 5). The index-building process applies 0 or 1 options with the scoring based on the disclosed control indicators in line with their definitions. Using dummy variables to build the index does allocate an equal weighting to each of the indicators.[83] Despite this possible weakness, prior South African governance studies constructed their indexes using dummy variables in a manner that allocated equal weightings to the different indicators used by their indexes (Ntim, 2009; Mans-Kemp, 2014; Ashwin, 2015). The construction of the indexes is discussed in greater detail in section 6.7.1.

Another factor to consider is whether the variables required to answer the research question can be measured (a quantitative characteristic) or whether they merely indicate a preference (qualitative) (Huck, 2012:53). Although the indexes use 0 or 1 to quantify the index, the allocation is based on a quantifiable aspect such as CEO duality, or the percentage meeting attendance, and not on a preference. A preference would, for example, be the use of a Likert scale where the participant indicates a personal perception on a scale to answer a question. The quantifiable

[83] An assessment of the indicators to determine whether some are more important than others and need to receive different weightings is an area for future study.

aspect of indexes and the ability of statistical methods to assess or test for relationships support the use of a quantitative approach.

The choice between the quantitative and qualitative approaches is also influenced by the world view adopted in the study. A "quantitative view is described as being 'realist' or sometimes 'positivist', while the world view underlying qualitative research is viewed as being 'subjectivist'" (Muijs, 2011). A specific 'world view' reflects the belief system that guides research and is also referred to as a paradigm. Positivism "largely served as a label" to describe "the conventional approach to Quantitative Research" (Morgan, 2007:56), however, paradigms or world views are more complex. The four world views emphasised by Creswell (2014:6) are summarised in Table 6-2.

Table 6-2 World views

Post-positivism	**Constructivism**
• Determination • Reductionism • Empirical observation and measurement • Theory verification	• Understanding • Multiple participant meanings • Social and historical construction • Theory generation
Transformative	**Pragmatism**
• Political • Power and justice orientated • Collaborative • Change-oriented	• Consequences of actions • Problem-centred • Pluralistic • Real-world practice oriented
Creswell (2014:6)	

Post-positivism stems from positivism thinking that only recognised absolute truth of knowledge by acknowledging positive claims about knowledge related to studies of human actions (Creswell, 2014:7). Bryman and Bell (2015:10) describe positivism as "an epistemological position that advocates the application of methods of the natural sciences to the study of social reality" by focusing on observable indicators that can be factually measured in a value-free or objective manner to test a hypothesis. Creswell (2014:7) note that the post-positivist world view is deterministic in that it looks at causes and effects, reductionistic in that it

reduces ideas to small test sets using variables and research questions and uses "numerical measures of observation" to test theories.

In contrast, constructivism "challenges the assumption that categories such as organization and culture are pre-given and therefore confront the social actors as external realities" (Bryman & Bell, 2015). Creswell (2014:8) states that constructivism is often combined with interpretivism and is typically a qualitative approach that considers the understanding individuals seek in their world and their subjective meanings and experiences that direct meaning. Thus, the interpretive researcher attempts to interpret the meaning others attribute to the world. Interpretivism accepts that "social reality has a meaning for human beings and therefore human action is meaningful" and needs to be understood (Bryman & Bell, 2015:13).

The transformative world view moved away from the structural laws and theories of positivism that do not accommodate marginalisation in society and are practised by critical theorists and participatory action researchers to advocate a changed agenda for reform (Creswell, 2014:9). A pragmatic world view focuses on the research question by using pluralistic approaches to search for solutions, resulting in the application of mixed methods (Johnson & Onwuegbuzie, 2004:16).

Given the research objectives, hypotheses and indexes of this study, it can be said to fit into the post-positivist world view, as it uses reductionism to reduce indicators into indexes for statistical analysis by means of which to test the hypotheses in order to achieve the research objective and purpose. The agency theory view enables the study to consider the theory in the index construction and data analysis, which also fits in with post-positivism. However, as the study focuses on the relationship between the board as a governance mechanism and firm value, it does not follow the deterministic dictates of post-positivism. Data are collected in a value-free, objective manner by using indicator definitions and extracting data from publicly available documents in line with the expectation that objective empirical observations will be carried out.

Although the study considers the different roles played by executive and non-executive directors, it does not consider multiple participant meanings or aim to understand why the controls were used or were not used (which excludes constructivism). The study is not change-orientated or politically-focused despite the transformative political agenda noted in the South African context (which excludes the transformative world view), nor is the study problem-centred or practice-orientated (i.e. it is not pragmatic). The study uses descriptive research to assess the controls used by the board as a governance mechanism, using indexes to determine the relationship to firm value, thus excluding the constructivist, transformative and pragmatism paradigms.

The advantages of using a quantitative approach from a post-positivist viewpoint are that it enables the study to use externally observable records of published controls or proxies for the controls (extracted from secondary sources) to construct the indexes and perform statistical assessments. Physical observation of people's actions can be invasive and result in the Hawthorne effect (McCambridge *et al.*, 2014), in contrast extracting data from secondary sources after the fact results in the collection of reliable data, in a non-invasive and objective manner using methods that can be replicated. As quantitative research "emerged around 1250 A.D." and has been the dominant research method used to create meaning and new knowledge, it is a well-established approach by now (Williams, 2007:66).

The research objectives and hypotheses influence the research approach and the nature of the data influences the research design. The key differences between the alternative research designs, given the different research approaches, are summarised in Table 6-3 below.

Table 6-3 Alternative research designs for the approaches		
Quantitative	**Qualitative**	**Mixed methods**
• Experimental designs • Non-experimental designs	• Narrative research • Phenomenology • Ethnographies • Grounded theory studies • Case studies	• Sequential • Concurrent • Transformative
Creswell (2009:12)		

Ryan *et al*. (2003:117) explain that the value of a good research design is that it enables "more valid conclusions and inferences" to be "drawn from the work". As this study uses a quantitative research approach, the available research designs are experimental or non-experimental. Page and Meyer (2003:15) describe non-experimental research as research that "does not measure effects directly by manipulating controlled variables, but seeks relationships that can be found to exist between uncontrolled variables". Leedy and Ormrod (2005:179; 217) explain that a descriptive design (non-experimental) "examines a situation *as it is*", and experimental designs control variables to "identify *cause-and-effect relationships"*. As this study focuses on the relationship between the board's use of controls (using the CI and MLI indexes) and firm value, a non-experimental research design is required. Non-experimental research indicates the non-manipulation of data or *ex post facto* data collection where the variables are not under the direct control of the researcher (Ryan *et al.*, 2003:129). The use of secondary publicly available data is not invasive nor is it possible to influence the controls as the collection of the data occurs after the control was applied (*ex post facto*).

The use of agency theory as a lens results in the use of theory-based reasoning to identify the variables needed to populate the CI and MLI indexes (De Vos, Strydom, Fouché & Delport, 2005:47). Identifying the indicators enables the study to extract the required data to construct the indexes. Bryman and Bell (2015:3) explain that "research data become significant and contribute to knowledge when they are viewed in relation to theoretical concerns", thereby encouraging the use of

a theoretical lens. Using agency theory as the theoretical lens helps the study to move from a theoretical description of board-level controls to the identification of indicators and the construction of indexes to enable hypothesis testing, while using inductive reasoning enables the study to use the results to identify patterns related to the theory in the result discussion section.

The lack of manipulation of variables indicates that a non-experimental design has been used rather than an experimental design. An experimental design requires the manipulation of variables to measure the effect of the manipulation (Ryan *et al.*, 2003:122). Non-experimental research "seeks relationships that can be found to exist between uncontrolled variables" (Page & Meyer, 2003:15). Thus, the value of a non-experimental design is that it enables the assessment of relationships in line with the main objective of this study. The use of a non-experimental design also indicates the need to use econometric methods in the detailed analysis rather than standard statistical methods as econometrics specifically focus on the assessment of data collected using a non-experimental research design (Wooldridge, 2014:2). Using uncontrolled variables is important as the study does not attempt to influence or control the variables, given its focus on evaluating the board's use of controls and the relationship thereof to firm value, and not on establishing a cause-and-effect relationship.

Non-experimental studies and cross-sectional analysis are prone to omitted variable bias where an unmeasured factor can affect the dependent or independent variables, thereby biasing the results (Mans-Kemp, 2014:180). Studenmund (2011:168) explains that leaving an important explanatory variable out of the regression equation causes "bias in the estimated coefficients of the variables in the equation" and is referred to as the "omitted variable bias" or "specification bias". It is, however, possible to control for an unobservable effect of an omitted variable by using panel data with Fixed Effects (Wooldridge, 2014:387), allowing the research method to compensate for any specification bias. The next section focuses on discussing the research methods that are compatible with the research approach and design used in the study.

6.4 Research methods

Bryman and Bell (2015:28) describe a research method as "a technique for collecting data". Data are the "facts and figures collected, analysed and summarised" in the study (Anderson, Sweeney & Williams, 2015:5). Given the nature of this study, it is important to understand some of the terms commonly used in quantitative studies. The subjects for which data have been collected are the boards of companies on the SRI index, while variables and indicators are characteristics of interest linked to the board, and the set of measures obtained from a subject (a board) are referred to as observations (Anderson *et al.*, 2015:5).

The collection of data differs between qualitative and quantitative studies and depends on the world view used by the study. However, the nature of the collected data influences the measurement and methods used to analyse the data, as discussed in section 6.4.2.

6.4.1 Data collection methods

Data for a quantitative study can be collected by using survey instruments like questionnaires or by using a content analysis to extract data from archives (including databases, websites and reports) (Bryman & Bell, 2015:99-261). Given the quantitative nature of this study and the post-positivist world view adopted, it is important that data should be collected in an objective and neutral manner.

Quantitative surveys are structured, self-completion questionnaires that gather data from participants at a point in time (Leedy & Ormrod, 2005:183-186). This is a popular method of ascertaining people's perceptions, for example for marketing research. The other method, namely content analysis, is a method that analyses texts and documents to quantify their content against indicators or categories "in a systematic replicable manner" (Bryman & Bell, 2015:219). As this study considers board-level control indicators used by boards from various

companies over a three-year period, questionnaires were not used because they are not an efficient data collection method. Questionnaires tend to have poor response rates and will need to collect responses from the board members at different points in time for a time series analysis, possibly influencing the future actions of the board as they are aware of being measured. As the required data are available in documents in the public domain such as integrated reports, websites or commercial databases (IRESS host a variety of financial and non-financial data on listed companies), a structured content analysis was used to extract the required data.

A more detailed discussion on the data collections methods used in this study is included in section 6.7. The measurement of data discussed in the next section is important to ensure that the data comply with the identified variable definitions to avoid bias.

6.4.1.1 Measurement

Quantitative data collection methods employ various measuring options (De Vos *et al.*, 2005:159). For example, a survey could ask participants to answer on a 5-point Likert scale to measure their responses, whereas a content analysis could extract data linked to specific indicators from documents, website and databases by using the underlying inherent measure of the indicator or by coding the data in line with the identified definition. A structured content analysis focuses on identifying the data needed using pre-defined indicators aided by a consistent structure to guide the data extraction. This study used an Excel template to structure the content analysis in order to ensure consistency and completeness in the data collection process. The template is discussed in more detail in section 6.7. It is also important that the measurement method applied in the identification and collection of the data enables the study to collect reliable and valid data (De Vos *et al.*, 2005:160).

Measurement is important as a quantitative method requires numerical data that quantify the theoretical putative relationship in the observed variable in an objective or valid manner (Page & Meyer, 2003:63; Bryman & Bell, 2015:99). The measurement of the variables must be supported by rules or definitions against

which the measurements are made, in line with the theoretical arguments (Ryan *et al.*, 2003:118) to ensure validity and enable reliability. Validity refers to whether or not a measure of a concept really measures the concept (Bryman & Bell, 2015:109). Reliability requires definitions to be clear enough to ensure that if the data extraction process is repeated or checked the identical measure would be identified (Page & Meyer, 2003:84).

This study specifically addressed validity and reliability concerns by defining the variables and indicators in chapters 4 and 5. Appropriate definitions are important to avoid incorrect data extraction which could lead to measurement errors. A measurement error is present when the extracted data do not measure the underlying variable (Page & Meyer, 2003:78). The challenge in social science studies is that in a complex phenomenon, proxies are generally used as approximations to represent the underlying criterion, such as firm value. In such cases validity challenges need to be considered by using theoretical deductions and prior research in the definitions of the variable to increase validity. Reliability is ensured by using clear definitions in the measurement of the proxies that can be replicated. The nature of data also influences the measurement as certain types of data are easily measured with accuracy.

The company names are used to identify their boards and are nominal data (also referred to as categorical data) (Devore & Berk, 2012:3). Nominal data are easy to identify accurately; for example, the industry classification of a company can easily be identified using information from a database, since it is the mere allocation of a name (Ryan *et al.*, 2003:118; De Vos *et al.*, 2005:164). Dichotomous variables are nominal data that represent mutually exclusive options and are also referred to as dummy or binary variables. For example, the question whether the external audit firm of a company is one of the Big 4 firms would produce a yes or no answer, or a 0 or 1 dummy variable. It is easy to assess the validity of a nominal variable by considering the data against its definitions to determine whether the data measure the aspect they claim to measure (face validity) (De Vos *et al.*, 2005:161).

The nature of the data also influences the analysis options, which are discussed in more detail in section 6.4.2.

Data that indicate differences in perception, for example the classification of companies as small, medium or large, increasing in ranking where size of the difference between ranks is not known or measurable, are referred to as ordinal or ranked data (Levin & Fox, 2006:11). None of data extracted by this study were ordinal or ranked data although it would be possible to re-code continuous data into ranked data.

The more commonly used level of measurement in econometric analysis is continuous data or ratio data with a limitless range (Page & Meyer, 2003:64). This study mainly uses ratio data. Ratio data employ a measurement scale with equal intervals between data points, with a true zero point (Field, 2009:9) using percentages for example. Extracting market or financial data from commercial databases can result in easily obtainable and accurate ratio data with strong face validity and high reliability.

Similarly, using a context analysis of the integrated reports to identify variables such as the age, tenure and remuneration of directors is also straightforward and has a high level of validity and reliability. The biggest challenge with extracting data is to ensure that the data extraction process follows a structured procedure to ensure consistency and record the data accurately. This requires additional controls to ensure the reliability of the data capturing process. Once the appropriate data have been extracted, it is important to summarise the data using appropriate formulas in a consistent manner to enable the study to construct the CI and MLI indexes.

6.4.1.2 Structure of the data

There are two broad data structures, namely cross-sectional data and time series data. Cross-sectional data consist of observations linked to the subject[84] at the same point in time, whereas time series data consist of variables linked to the subject over time (Wooldridge, 2014:5-8).

Not considering all variables could lead to biased results in econometric analysis. Thus, combining cross-sectional data with time series data addresses the bias risk and improve the predictability of the analysis by adding more data points and changes over time. Where a study includes time series and cross-sectional data for the same subjects and the same time periods, it is referred to as panel data (discussed in section 6.4.2.3). Although panel data have specific advantages and applications basic statistical analysis methods are valuable in assessing relationships and for descriptive statistics purposes.

6.4.2 Data analysis methods

The quantifiable nature of the data used in this study is ideal for assessing relationships or correlations between various variables to test the theoretically argued relationships (Leedy & Ormrod, 2005:181). This can be accomplished using descriptive statistics to better understand the data with correlation and regression analysis linked to the hypothesised theoretically argued relationships (Ryan *et al.*, 2003). As a relationship between two variables could be influenced by an outside or omitted variable, further analysis using econometric models and tests is warranted. To ensure the model design considers the functional relationship of the variables, descriptive statistical methods and correlation analysis have been used to obtain a better understanding of the underlying data.

[84] In panel analysis the "term **subject** is used in a generic sense to include the microunits" and represent the boards of the SRI index companies in this study (Gujarati & Porter, 2009:592).

6.4.2.1 Descriptive statistics

Descriptive statistics describe data by summarising the frequency, middle point and distribution to show the average latency across the variability of the data (Howell, 1999:5). The results can be presented using graphs or tables, depending on the nature of the data and the number of variables that need to be summarised. The hypotheses, nature of the data and underlying relationships influence the selection of the methods used for the analysis to test the hypotheses.

Different methods are used to describe data, depending on their nature. Nominal data are only described using the frequency of occurrence (Howell, 1999:9). For the other types the percentage of the frequency can be used to show the number of observations of the different variables (Anderson *et al.*, 2015:38-39). Using a frequency distribution with visualisation, such as a histogram, helps to clearly show the underlying characteristics of the variables and can allude to the midpoint of the data as well as the distribution and range (Howell, 1999:32-33).

Additional common descriptions centre on the midpoint. Measures to show the position of the midpoint include the mean, median and mode while the distribution can be derived by considering the quartiles, percentiles, range (highest-lowest score) or standard deviations. The mean is the mathematical average while the median is the middle value in an ascending variable, and mode is the value that occurs with the greatest frequency (Anderson *et al.*, 2015:108-112). This study used the median as the midpoint as it is regarded as a better midpoint than the mean and will be the same as the mean for a normally distributed variable. Considering the midpoints enabled the study to identify the measures of central tendency (Howell, 1999:55-59).

Measuring variability is also important and here the first step is to consider the range (highest value less lowest value) and the average deviation (the difference from the mean), to show the variance (Howell, 1999:66-68). Quartiles and percentiles can be useful for showing the spread in smaller sections. Quartiles and percentiles are used to show the quarter or percentage points in an ascending

variable (Anderson *et al.*, 2015:117-119). The variance is a better indication of the distribution. Variance is a "measure of the variability that utilizes all the data", showing how each observation differs from the mean, where standard deviation is the square root of the variance and the coefficient of variance shows the standard deviation on the mean (Anderson *et al.*, 2015:127-130).

Distributions can be negatively skewed (with the higher values in the distribution clustered towards the right) or positively distributed (with the high values clustered to the left), indicating non-normal distributions (Howell, 1999:44). The variability may be considered for a smaller section of the dataset, for example the upper quartile. It is important to consider variability as the sample variance helps to estimate the population variance (Howell, 1999:72). The value of statistics lies in its ability to estimate or infer the population's characteristics by using the sample. This is also referred to as inferential statistics. The sample used in this study is large in comparison to the population (as close to the population as possible given the constraints of a balanced panel) which reduces sampling error risks in the use of inferential statistics. Interpretation of the results in this study should consider the near population size sample used in this study.[85]

6.4.2.2 Inferential statistics

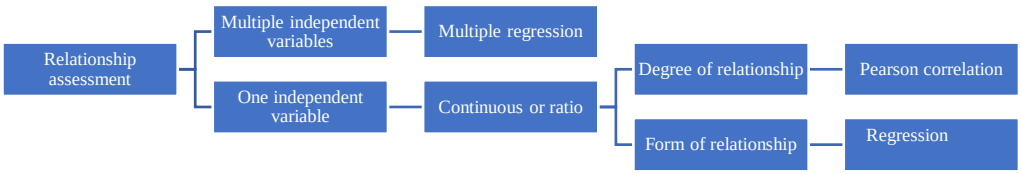
This study focuses on the relationship between the board as a governance mechanism (considering CI and MLI indexes as the independent variables) and firm value (the dependent variables). There are various statistical methods available, such as correlation analysis, regression or multiple regression analysis, related sample t-tests, analysis of variance or factor analysis. However, the type of data as well as the hypotheses must be considered in selecting the method of analysis.

Given the focus of this study on the relationship, a correlation or regression analysis is better suited than related sample t-tests or analysis of variance tests for

[85] In the broader assurance field it is not unusual to apply statistical or econometric methods to populations as the use of computer assisted techniques enable auditors to assess populations with ease.

differences. T-tests or analysis of variance tests can be valuable to identify differences between groups whereas factor analysis can be valuable for assessing the interaction between variables in complex concepts.[86] This study already uses indexes to consolidate board-level controls and can therefore directly assess the relationship between the dependent and independent variables. Thus, factor analysis is not considered in the assessment of relationships used in this study while t-tests could be valuable to shed light on differences between groups linked to the nominal variables for descriptive purposes. To identify which statistical method of analysis is the most suitable, a decision tree that considers the methods that test relationships is shown in Figure 6-2.

Figure 6-2 Decision tree for statistical analysis



Adapted from Howell (1999).

The decision tree shows that the degree of relationship between a dependent and an independent variable can be assessed using a Pearson correlation analysis. However, as there are two independent variables a multiple regression is the better method. A correlation analysis is a "descriptive measure of the strength of linear association between two variables" whereas a regression model describes how the dependent variable is related to the independent variables using a linear equation with an error term to include the omitted variables (Anderson *et al.*, 2015:607). A regression analysis aims to link movement in the dependent variable as a function of movement in the set of predictor[87] variables using a single equation with an error

[86] The use of factor analysis to consider the interaction between the individual indicators or variables is an area for future study.
[87] The term predictor variables are used to represent the independent and control variables used in the regression model.

added to accommodate variations that cannot be explained (Studenmund, 2011:5 & 9). A regression model operates under specific assumptions, namely:

1. "The error term is a random variable with a mean or expected value of zero.
2. The variance of the error term is the same for all the values of the independent variables.
3. The values of the error term are independent.
4. The error term is a normally distributed variable for all values of the independent variable" (Anderson *et al.*, 2015:631).

When multiple independent variables are used to predict the dependent variable, there could be a correlation between the independent variables known as multicollinearity. Severe multicollinearity (a sample correlation coefficient exceeding 0.7) between two or more independent variables could make interpreting the results difficult and should therefore be controlled for (Anderson *et al.*, 2015:714-715). It is also important to consider a possible correlation between the independent variables and the error term referred to as an "endogenous explanatory variable" as it can breach the zero conditional mean assumption, as well as the inclusion of possible irrelevant variables in the model (Wooldridge, 2014:75-76). As the study uses a non-experimental design, it is important to consider an econometric model that addresses the challenges associated with multiple regression analysis.

6.4.2.3 Econometric models

Due to the non-experimental nature of the research design, the study uses econometric models that specifically cater for regression analysis options by enabling the analysis to hold the other variables constant (*ceteris paribus*) in order to identify the effect of one variable (Studenmund, 2011:4; Wooldridge, 2014:12). Econometrics enables the use of regression analysis to make "quantitative estimates of economic relationships" that have been theoretically described to "predict the *direction* of change", using a sample to "predict the *amount* of change" (Studenmund, 2011:5).

As the corporate control and managerial labour indexes are complementary, the combined impact of both (CI+MLI) is assessed against firm value to determine the relationship between the board as a governance mechanism and firm value using the following model:

$$\text{Firm value}_{it} = \alpha_0 + \beta_1 BLOCK_{it} + \beta_2 CONSHA_{it} + \beta_3 DIRSHA_{it} + \beta_4 QAS_{it} + \beta_5 IND_{it} + \beta_6 CCI_{it} + \beta_7 CI_{it} + \beta_8 MLI_{it} + \varepsilon_{it}$$

The above model considers the combined effect of the independent variables CI and MLI on the dependent variable – firm value. The additional control variables enable the model to identify the relationship between CI and MLI and firm value while keeping the control variables that could also influence firm value constant. Although the study uses the term dependent variables they are synonyms for explained or predicted variables. Independent variables refer to the CI and MLI indexes whereas predictor or explanatory variables refer to the independent and control variables.

Six control variables (CVs) that are known variables that can influence firm value have been added to the model using the literature as a guide. By adding the CVs to the model, the study controls for the omitted variable risk to some extent. Although time series data can lead to autocorrelation, they are less likely to have heteroskedasticity when compared to cross-sectional models (Studenmund, 2011:337-339). It is possible to test for heteroskedasticity (whether the error variance is constant) by using the Breusch-Pagan test (Wooldridge, 2014:219-224). Heteroskedasticity can be caused by outliers, skewed independent variables or omitted variables (Gujarati & Porter, 2009:367-368). The Breusch-Pagan test for heteroscedasticity and random coefficient variation can be used to assess the balanced panel to ensure an appropriate analysis method is used (Breusch & Pagan, 1979; Gujarati & Porter, 2009:385).

The omitted variable risk can also be addressed by using both a cross-sectional component, the different subjects (the boards of companies on the SRI

reflected as ‘i’) and different time periods ‘t’ to consider more variability. Changes over time can complicate the analysis as time series variables are more complex than a cross-sectional analysis because business and economic related observations are seldom “independent across time” (Wooldridge, 2014). Correlation across time in the error term, referred to as serial correlation or autocorrelation, requires the calculation of an autocorrelation coefficient to test the correlation (Studenmund, 2011:305 & 315)[88]. Some variables (such as the existence of a dominant shareholder) may be constant over time while other variables (such as the QAS) may show incremental increases over time. The short time dimension used in this study is very short for time series effects to emerge which is why most time series focused studies use longer time spans that are closer to ten years. Time invariant variables could influence estimations over time and have been taken into consideration in the Fixed Effects estimations model. As it is not possible to include all the independent or explanatory variables in a regression, there will always be omitted variables, making the error term an important part of the equation (Wooldridge, 2014:59).

In addition to considering the error term, the regression model must take the functional relationship between variables into account to ensure that their relationship is appropriately reflected in the model (Wooldridge, 2014:18). This highlights the importance of descriptive statistics and correlation analysis in building a stronger understanding of the actual relationship versus the theoretical or expected relationship of the underlying data to ensure that the model’s descriptions are appropriate.

The nature of the data and functional relationships of the variables can influence the type of regression method. The most common regression model option is ordinary least squares (OLS), which calculates the variable coefficient by minimising the sum of squared residuals (Studenmund, 2011:35). However, it is important that an OLS regression should address the Gauss-Markov assumptions, of which one of the more common challenges is the omitted variable risk. To help

[88] Given the short time dimension this study does not report on serial correlation tests for the panel.

address this risk the study included data from different subjects (the boards of companies on the SRI) and time periods. It is also possible to use a general least square (GLS) estimation where OLS is expected to be inefficient to consider the variability between subjects helping to control for heteroskedasticity (Gujarati, 2003:395).

The use of both cross-sectional and time series data results in panel data that are defined as a data set that "consists of a time series for each cross-sectional member in the data set" (Wooldridge, 2014:10). Panel data have advantages as "having multiple observations on the same" companies enables the study to "control for certain unobserved characteristics", thereby reducing the omitted variable risk and increasing the sample size (Studenmund, 2011:526; Wooldridge, 2014:11). The benefits of panel data as explained by Baltagi (2005:4-7) include controlling for individual heterogeneity, providing more informative and greater variability in data, with less collinearity, greater degrees of freedom and more efficiency, identifying effects not detectable in cross-sectional or time series studies to study the dynamics of change, and to detect unobserved effects, useful in more complicated behavioural models and minimize bias when aggregating data. The sampling process discussed in section 6.6 incorporates explanations on how the study controlled for possible sample selection bias.

Panel data use methods of analysis that accommodate the cross-sectional and time series nature of the panel, namely Fixed Effects estimation. Fixed Effects estimation allows each cross-sectional subject to have a different intercept that is time invariant allowing for both individual and time effects and avoid the time-invariant omitted variable bias (unobserved heterogeneity) by using time-demeaned data (Gujarati & Porter, 2009:596-600; Studenmund, 2011:528-536; Wooldridge, 2014:373-395). Thus time-invariant data (such as the industry data that is consistent over time) cannot be analysed with Fixed Effects and should be excluded.

Random effects or the error component model uses a composite error term that include the cross-sectional error term and the combined cross-sectional and

time series error (Gujarati & Porter, 2009:603). Random Effects estimation assumes that the intercept of each cross-sectional subject is drawn from a distribution that is centred around the mean (Studenmund, 2011:528-536; Wooldridge, 2014:373-395). It is important to note that the individual error terms are not correlated with each other and are not autocorrelated across both cross-sectional and time series units and that the composite error term is not correlated with the explanatory variables in the model (Gujarati & Porter, 2009:602-603). Random effects might not apply to this study as the study uses a near population sample or boards, however boards are represented by individual directors that are part of a larger sample. The Hausman test can be used to assess the relationship between the intercepts and the independent variables to determine whether Fixed or Random Effects would be the recommended method (Studenmund, 2011:536).

Even if the best methods are used, statistical analysis is only valuable if the data collection methods and the whole methodology used by the study are structured and managed in a manner that ensures the validity and reliability of the data to test the study's hypothesis. The study used different research phases to control the validity and reliability of the data collection as well as the variable definitions to ensure that the methods used enabled the study to test the hypotheses and achieve the research objective and purpose.

6.5 Research phases

This study used four phases to achieve the research purpose. Phase 1 focused on identifying and defining the proxies for firm value (summarised in Appendix 3). It was possible to extract the data for the firm value proxies from the IRESS database (archival research). Data extracted from the database were exported into Excel and copied into the panel to ensure that the extracted data were accurately transferred to the panel.

Phase 2 defined the data required for the control variables (CVs) and the index indicators, using the literature to support the definitions. The identification

and definitions for the CVs have been discussed in chapter 4 in detail and summarised in Appendix 4. It was possible to extract the data for most of the CVs from IRESS. Data extracted from the databases were extracted into Excel and copied into the panel to ensure that the extracted data were accurately transferred to the panel. However, some of the data for the CVs (specifically for CCI and QAS) were not available in databases but were available in integrated reports, including the audited annual financial statements. Data for CVs that could not be directly exported from IRESS were extracted together with the indicators used for the CI and MLI indexes using a structured content analysis (phase 3). The indicator definitions for the CI and MLI indexes were identified and defined in chapters 4 and 5 respectively and summarised using mindmaps to give a visual overview linking the indicator definitions to the indexes. The CI index indicators are summarised in Appendix 5 and the MLI index indicators are summarised in Appendix 6.

Phase 3 followed a stepped approach to extract the required indicator-related data. Step 1 started with the development of a spreadsheet template to structure the content analysis in a manner that facilitated the consistent extraction and summarisation (using formulas) of the required data for all the periods for each board (resulting in the use of 84 spreadsheets with separate sheets for each year). Step 2 extracted the data and step 3 reviewed the extracted data for completeness and accuracy and reviewed the formulas for appropriateness. Step 2 and 3 was extremely costly as a large volume of data relating to the individual director (approximately 1000 individual directors per year) indicators had to be manually collected, checked and summarised to represent information on the board for each board and each period. Step 4 consolidated the data from the individual spreadsheets into a panel by copying the summarised data into a spreadsheet and using formulas to calculate the indexes and remaining control variables. The purpose of step 5 was to ensure that there were no missing or incorrect data by reviewing the panel, and the last step led to the construction of the remaining control variables, the CI and MLI indexes.

Phase 4 used statistical software to calculate descriptive statistics for all the variables, considering the cross-sectional aspect of the variables per year as well as for the pool where the descriptive statistics of the variables for all the years were calculated. To assess the independent variables used in this study, a multiple regression analysis was used to test the hypotheses by means of a variety of regression methods. As this study collected panel data (data for the same subject over the same time periods), panel analysis methods were applied to control for possible "bias in cross-sectional studies" (Studenmund, 2011:526-527). The selection of the sample is also a crucial step as poor sampling can lead to sampling bias, however, the aim of the sampling process described below was to come as close as possible to a census given the restrictions of a balanced panel.

6.6 Sampling process

Although the subject of analysis of this study is the board, each board leads a company on the SRI index and it is practical to identify the company first and then identify the board members for each company in each period. As the directors on a board can change over time, this study uses the directors on the board at year-end to represent the board for the relevant period. The board is thus a consolidation of the directors who serve on the board. Companies on the SRI index tend to follow transparent disclosure practices to retain their position on the index and reduce information asymmetry by disclosing more information on non-financial matters to control for compliance with the requirements of the SRI index.

Using a panel data set entails a survivor bias risk if the sample was selected retrospectively. A survivor bias risk is generally applicable to most panels built retrospectively from listed companies and has been acknowledge in prior local studies as a potential weakness (Ntim, 2009:136; Taljaard *et al.*, 2015:430). This study did not select the sample retrospectively and included all the companies from the SRI index over the period for which data were available to comply with the restrictions of panel data. The study aimed to get as close to a census as possible, given the constraints of a panel data model. Although panel data have statistical

advantages, they do limit the sample as data are needed from all subjects for all the periods.

There is, however, still a small risk of survivor bias in the sample. This risk is limited and affects only one company. African Bank was excluded because the company was placed in curatorship in 2014; however, the findings of the curator's report have been considered. The study also includes a new joiners bias as companies such as Capevin and Sibanya, which joined the SRI index after 2012, only started operating towards the end of 2012 and were excluded as they did not have data for 2012. However, as only two out of 84 companies were affected the new joiners risk is not expected to be significant. More information on the sample selected is included in Appendix 2.

6.6.1 Study period

The study focuses on the years 2012 to 2014. The study began in 2012 as it was the first year of the implementation of the 2008 Companies Act. The implementation of the Companies Act was delayed as extensive amendments legislated in 2011 first had to be enacted before the 2008 Companies Act could come into force in 2012 (RSA, 2011). The study period ended in 2014 as the JSE partnered with the Financial Times Stock Exchange (FTSE) Russell[89] in 2015, which changed the index in 2015 (JSE, 2015).

To identify the companies on the SRI index for the period, the list of companies allowed onto the index from 2011 to 2014 was extracted to form a combined list of companies on the SRI index for the years 2011 to 2014 as summarised in Table 6-4 (JSE, 2014b).

[89] FTSE Russel represents the FTSE and Russell indexes which combined to become a global index leader. More information can be accessed via the website at: www.ftserussell.com.

Table 6-4 Companies on the SRI index	
Year	**Number of companies**
2011	74
2012	76
2013	72
2014	84
Total number of companies on the SRI index over the period	**90**[90]
(JSE, 2014b)	

6.6.2 SRI index

The JSE identified qualifying companies for the SRI index on an annual basis (JSE, 2010b; JSE, 2014a). The company identification for this study began in 2011, as the companies identified in 2011 as suitable for inclusion on the SRI index were known at the beginning of 2012. The study ended in 2014 it was the last evaluation before the JSE partnered with FTSE Russell in 2015 (JSE, 2015). Given the control focus of this study a short time series is acceptable as auditors mostly uses analytical procedures over two-year periods (Gray & Manson, 2005:410). As the SRI index companies were analysed annually for inclusion in the index the number of companies on the index fluctuated annually (as summarised in Table 6-4).

The sample of companies used in this study was constructed by starting with all the companies that were part of the SRI index during the periods 2011 to 2014, resulting in 90 companies in total being included in the index from 2011 to 2014. Companies that lost their listing or underwent a material change in their shareholding during the period were excluded from the evaluation. In addition, companies that did not operate during any of the periods from 2012 to 2014 were excluded.

[90] There were 90 companies on the SRI index identified between 2011 to 2014, some companies might only have been members of the index for one year while other companies were members for the whole period.

Details of the list of companies as well as the name changes and exclusions are shown in Appendix 2. In summary the companies that form part of the study had to operate for the period of the study, be selected to be part of the SRI index in any year between 2011 and 2014, have a level of consistency in ownership and retain their status as listed companies for the period of the study. The criteria enabled the study to build a balanced panel data set (same companies over the same periods) in line with prior studies (Yermack, 1996:189; Ntim, 2009:136; Taljaard *et al.*, 2015:430).

6.6.2.1 Background to the SRI index

The SRI index in South Africa is unique in that its establishment was driven by companies and not by institutional investors (GCX Africa, 2015). The index was the "first of its kind in an emerging market" (Herringer *et al.*, 2009:14) when established in 2004 (JSE, 2015). In 2015, just over ten years later, the JSE partnered with FTSE Russell, a respected global index provider, and adopted the FTSE ESG[91] ratings linked to two indexes that focus on socially responsible investment in the FTSE/JSE Responsible Investment Index and the FTSE/JSE Responsible Investment Top 30 Index (JSE, 2015). The use of indexes like the Top 40, Responsible Investment Top 30, Resource 10, Industrial 25 and Financial 15 highlights the limited size of the South African market for listed and large listed companies.

The SRI index might represent a relatively small number of companies, especially when contrasted with international indexes. However, the SRI index represents a large portion of the market capitalisation in South Africa. In 2012 the total market capitalisation of the SRI index, as extracted from the McGregor's BFA[92] database, was 81.97% (and in 2013 it was 81.73%) of the total market capitalisation of the JSE All Share index. The top 100 companies in 2012 were 88%

[91] ESG – Environment social and governance
[92] McGregor's BFA changed to INET BFA, and then to IRESS during the period of the study.

of the JSE, highlighting the extensive market capitalisation coverage of the SRI index.

The SRI index consists of larger profit-orientated companies with more diverse shareholders trading on the JSE, in line with agency theory as described by Dalton *et al.* (2007:34). Given the agency theory lens used in the study, larger companies where the board have oversight responsibility and a need to control goal alignment with the shareholders, who appointed them, merit special attention. Large listed companies are more likely to have widely held shares and need to comply with specific requirements, including the auditing of the financial statements as required by the Companies Act as well as additional disclosure requirements included in the JSE listing requirements (RSA, 2008a; JSE, 2011).

In general, South African accounting and disclosure practices are strong, as pointed out in section 2.3. The First World nature of South African accounting practices extends to quality non-financial disclosure. Maubane *et al.* (2014:153) found that "South Africa is regarded as one of the leaders in sustainability reporting in the world". Cho *et al.* (2013:71) found that improved corporate social responsibility disclosure or more transparent reporting practices help to reduce information asymmetry. Thus, the South Africa practice of applying transparent disclosure principles is invaluable as it enabled the study to extract the required data with the aid of a content analysis.

6.6.2.2 Sample selection

The SRI index has been purposely selected not for its sustainability focus but for its superior disclosure practices as publicly available documents are used in the evaluation of companies against the criteria of the index (JSE, 2010b; JSE, 2014a). SRI index companies are expected to apply transparent disclosure practices, and this expectation is not unfounded as an evaluation of disclosed integrated reporting trends found that companies on the SRI index outperformed companies on the JSE Top 100 in respect of disclosure (Nkonki Inc., 2012:17).

As this study focuses on non-financial controls applied by the board, focusing on companies that use transparent disclosure practices especially for non-financial information increases the likelihood that appropriate and reliable data will be available. This could bias the study with regard to larger companies. However, smaller owner-managed companies do not suffer from the level of goal divergence (or agency problems) that applies to their non-owner manager counterparts as they are generally managed by the owner. The index requirements regarding the disclosure of financial, non-financial and governance information made it more likely that relevant information will be available. The constituents on the SRI index are annually assessed for inclusion in or exclusion from the index by the JSE. Thus, using the SRI index criteria, companies on the SRI index are more likely to disclose appropriate, relevant and useful information to safeguard their position on the index (JSE, 2010b; JSE, 2011; JSE, 2014a). For example, Sun International has "[m]aintain inclusion in the JSE's SRI Index" as a governance and sustainability strategic priority (Sun International, 2013:46).

The South African SRI index is also unusual in that the index includes many mining companies (15 companies on the basic materials index are in mining) as well as companies involved in "sin" trades such as tobacco (1 company) and alcohol (2 companies). Heese (2005:730) notes that with the move towards social investment "large US municipal pension funds and private investors" publicly withheld investment based on ethical considerations around companies involved in "gambling, tobacco, alcohol and weapons" and mining activity, which is seen as involvement in "environmental degradation". As mining, tobacco and alcohol-based groups of companies are involved in unethical activities, the inclusion of companies involved in mining, tobacco and alcohol may be an indication of the success of the South African transformational agenda towards improved social responsibility. However, this study focuses on board-level controls and the relationship between transformational and ESG business practices, with firm value as an area for future research.

There are nine major industries represented on the JSE and they are all represented on the SRI. In South Africa utility companies are state-owned companies (SOC) and are not listed.[93] The industry groupings are based on the industry groupings used by the JSE and extracted from INET for all the companies. More information on the number of companies in the major industry groupings as well as the re-coding of the industry groupings for CV5 is given in Table 6-5.

Table 6-5 SRI Industry groupings

Industry name	Number of companies per industry	Primary industries (0) versus consumer industries (1) re-coded[94]
Consumer services	11	1
Basic material	22	0
Industrials	17	0
Financials	17	1
Telecommunication	3	1
Health care	4	1
Consumer goods	8	1
Technology	1	0
Oil and gas	1	0

(INET BFA, [S.a.])

The re-coded industry groupings split the results in a 41 to 43 split, with 41 companies in the primary industry group (coded as 0) and 43 in the consumer industry group (coded as 1). There was no change in the industry groupings over the period of the study.

This study includes companies in the financial industry, which is often excluded from governance-related studies (Ntim, 2009:136; Mans-Kemp, 2014:212-217). The more regulated nature of the financial industry is usually cited

[93] Telkom is the only SOC that is listed and falls under the telecommunication industry.

[94] Industry is one of the control variables, CV_5 = IND, a dichotomous variable where the primary industries, such as, mining (basic materials), oil and gas, technology and industrial (industrials) sectors with few customers are coded as 0 representing primary industries. The customer-centred industries, such as, consumer goods and services, health care, finance (financials) and telecommunication sectors with large customer bases are coded as 1 representing consumer industries.

as the main reason for the exclusion of the industry (Yermack, 1996:189; Ntim, 2009:133; Carter, Li, Marcus & Tehranian, 2016:3). However, this might not be a valid argument as each industry has its own regulatory challenges. Eccles *et al.* (2009:31) included financial services in their accountability study on large South African listed companies. Kolobe (2010:22) also used all industries in a corporate governance study in line with Abdo and Fisher (2007:46). One of the disadvantages of including the financial industry is that the use of sales as a control variable to represent firm size is excluded as the revenue flows of financial companies are recorded differently from sales by other industries.

6.6.3 Sampling practices in prior studies

Accounting, auditing and control related studies on corporate governance areas in South Africa focus their research on large companies where separation between ownership and control is more likely. Samples used in recent prior studies include Semosa (2012) who used the five largest Platinum companies making up about 80% of the sector; Opperman (2009) used the 20 largest companies; Ashwin (2015) used 30 companies and Taljaard *et al.* (2015) used a sample of 40 companies. The Top 40 listed companies on the JSE have been used by multiple studies (Eccles *et al.*, 2009; Marx, 2009; Barac & Moloi, 2010; Seakamela, 2011; Williams, Deodutt & Stainbank, 2016). Alessandri *et al.* (2011:244) based their Black Economic Empowerment (BEE) cross-sectional regression study on 64 transactions in BEE deals between 1993 and 1995, a census.

Some recent corporate governance studies used larger samples, across longer timespans; Ntim (2009) used 100 companies in five industries over a five-year period and Mans-Kemp (2014) used 227 companies in six industries over an eight-year period. Tshipa (2017) used 90 companies in five industries over a 13-year period. This study extracts panel data based on 84 SRI index constituents during the period 2012 to 2014 (252 firm year observations), in an environment in which the 2008 Companies Act applies.

6.6.4 Statistical versus control view

Although data for multiple years yield more data points, and more data points are valued from a statistical point of view, this study centres on evaluating controls. In the evaluation of controls the reliable and consistent operation of controls over the assessed period is key to the evaluation of the acceptability of the operation of internal controls during an audit (Gray & Manson, 2005:329). Controls are generally judged to be ineffective if there is any indication that they are not reliable or consistent.

Board-level controls differ from the normal operational internal control system by possibly having a delayed effect; therefore, the impact of a negative lagged dependent variable will also be considered. A delayed effect might be reasonable as it takes time for any change in controls in a company to filter through the processes in a manner that results in perceptible changes to firm performance and value. As noted in section 4.3.2.1, some board-level controls (on controlling for CEO ineffectiveness) could lag for up to two years. Using a micro panel enables this study to consider a possible lag effect.

6.7 Data collection and analysis

As very little of all the required information is available in archival databases, a structured content analysis of the available annual reports and websites was performed to extract the required data. As little information on board-level controls is available, the content analysis was the dominant data collection method. It is a manually intensive method that requires additional controls to ensure that the correct data have been extracted and captured reliably. Such a content analysis is not a frequently used research method due to the high time and cost demands of performing the content analysis in a manner that result in valid and reliable data. The content analysis was structured to identify, and capture information linked to the indicators defined in chapters 4 and 5. The indicators were used to represent the data collection units, however, some indicators needed multiple collected data points to provide the information needed in the indicator definition. For example,

identifying the ELDS required the automated analysis of 252 annual reports assessing 24 terms (Appendix 8) and took approximately a full week to identify the data related to one indicator using an automated tool. Although the individual score per integrated report was included in the MLI index, the average ELDS run on all 84 companies' integrated reports together per year initially showed an improving trend moving to from 2407 in 2012 to 3486 in 2013 falling back to 2541 in 2014.

A content analysis is not as neutral when compared to database extraction because the researcher must identify the appropriate information and extract it manually. Some data such as the remuneration or meeting attendance of the different board members are easily identifiable and extractible per director. However, as the study focuses on the board and the board consist of a number of individuals it means that the relevant information had to be extracted from just over 1000 directors per year. Only thereafter was it possible to calculate for example the average remuneration for executive and non-executive directors per board for each of the 84 companies, or the average percentage meeting attendance. Other factors were more difficult to identify and required an analysis of the narrative of the integrated report to identify, for example, to determine whether the board performed an annual performance evaluation for the board as well as all the board committees it was necessary to read large sections of the governance part of the integrated report. However, with additional controls it was possible to extract the data reliably.

Face validity was considered in the definitions of the variables and indicators as well as during the data extraction process. The coding used to identify the indicators were determined *a priori* in the index identification and indicator definition phase of the study. During the identification of the variables and indicators in chapters 4 and 5, this study considered the definitions used by prior studies as well as local governance guidelines and regulations in the development of the definitions. Clear definitions for the indicators assisted to establish validity and enable reliability of the content analysis. Mostly the data collection was sourced from the integrated reports and company websites, however not all the information needed for the various indicators were readily disclosed. For example, the

information relating to race and gender are seldom disclosed and were coded using the guidance of the director's cv or online profile and data from the Who Owns Whom database. This resulted in the diversity indicator being the most time-consuming indicator to identify.

As the study focuses on boards of listed companies the data needed to achieve the research objective are publicly available in various formats. Financial and market-related data are available on archival databases like IRESS. In addition, boards disclose information in the integrated reports of their companies on the methods they employ to control and direct their companies. Extracting data from publicly available integrated reports or existing archives is more objective as it takes place after the fact and cannot influence the phenomenon being studied, in line with this study's worldview and the non-experimental design. Extracting quantifiable data for the various indicators enabled this study to construct the various indexes.

6.7.1 Building indexes

Given the complexity in the business environment, corporate governance studies have started to use index building as a mechanism to consolidate variables (Gompers *et al.*, 2003; Ntim, 2009; Daines *et al.*, 2010; Bhagat, Bolton & Lu, 2015). This study builds on the existing practice of constructing indexes by building four indexes. The CI and MLI indexes are independent variables and measure the board as a governance mechanism, and the QAS and CCI indexes are part of the control variables.

The CI and MLI indexes extend the traditional practice of building corporate governance indexes by developing indexes that focus on board-level controls. The focus on board-level controls uses an annual focus in line with the annual reporting cycle of the board to the shareholders at the AGM. The indexes were constructed using 0;1 scoring for the various indicators as per their definitions. In several cases the 0;1 split was determined by the indicator's median for the industry group. An advantage of using the median is that it is the midpoint of the data and "is not

disproportionally affected by extreme scores" (Howell, 1999:57). To improve comparability, the index score is translated to a percentage. More information on the CI and MLI indexes has been included in Appendixes 5 and 6.

Gompers *et al.* (2003:108-110) developed the first seminal governance index as a proxy for shareholders' rights by considering provisions that reduce shareholders' rights, such as takeover defences. Their motivation for the development of the index was to avoid the limitations of event studies by "taking a long-horizon approach". They based their index on the Investor Responsibility Research Centre's 24 provisions and coded the provisions as "1" when they reduced "shareholder rights" (Gompers *et al.*, 2003:109). Subsequently their index was used by other studies that were making use of data from the USA (Core, Guay & Rusticus, 2006:656; Chae, Kim & Lee, 2009:2095; Bushee, Carter & Gerakos, 2014:129), or cited by other studies that were building indexes (Ntim, 2009:142; Bhagat *et al.*, 2015).

A number of commercial corporate governance indexes have been developed by The Corporate Library, Institutional Shareholder Services and Governance Metrics International (Ertugrul & Hegde, 2009:158; Daines *et al.*, 2010:440). However, they focused mostly on USA data and applied standardised methods which do not fully consider the differences between countries and their legal systems. Country-specific differences do, however, play a role as noted by Claessens and Yurtoglu (2013:8).

South African governance studies have also followed the index-building trend to consolidate a number of corporate governance factors into an index by developing indexes that centred on the unique governance environment that prevails in South Africa. Ntim (2009:27-28) developed a South African Corporate Governance Index as a compliance index with 50 governance provisions that were scored using 0;1 as dummy variables. Mans-Kemp (2014:9) used the PIC's Corporate Governance Rating Matrix to develop a comprehensive corporate governance score using 39 disclosure provisions with 35 acceptability dimensions

(Mans-Kemp, 2014:160-161 & 199). However, an index that was used by other South African studies was developed by Abdo and Fisher (2007:45), who used 29 governance disclosure factors for a G-score with an added quality aspect, using a score of 0;1;2. The index developed by Abdo and Fisher (2007) was subsequently applied by Opperman (2009) and Kolobe (2010). All the above studies focused on corporate governance and used a limited number of board-related indicators in their indexes.

This study used index-building strategies to consolidate two control variables, namely QAS and CCI[95]. As with the CI and MLI indexes the QAS and CCI was also constructed in line with the variable definitions using 0;1 scores to construct the index and for improved comparability the score is converted to a percentage. The CI index consisted of 25 indicators and the MLI index consisted of 23 indicators to focus the study on the board as a governance mechanism. The following section discusses the process used to extract, check and summarise the data to construct the indexes.

6.7.2 Extracting, checking and summarising data

Despite the expected availability of the data for the dependent and control variables in databases, there were instances where the database contained incomplete information, especially for audit fees. In such cases the missing data were extracted from the company's audited annual financial statements. Extracted financial information that was not expressed in Rand was converted to Rand using the disclosed exchange rate reported in the integrated reports to allow for consistency in the analysis.

Where extraction of data for control variables and dependent variables from a database (archival research) was possible, this was the preferred method. One of the advantages of archival research in addition to the ease of downloading large

[95] This study extends the current body of knowledge on the development of the QAS and CCI indexes and positioning quality audit considerations and company control considerations outside of the direct control of the board as part of the control variables.

numbers of variables for large numbers of entities over many periods is that it is considered a reliable source of valid data.

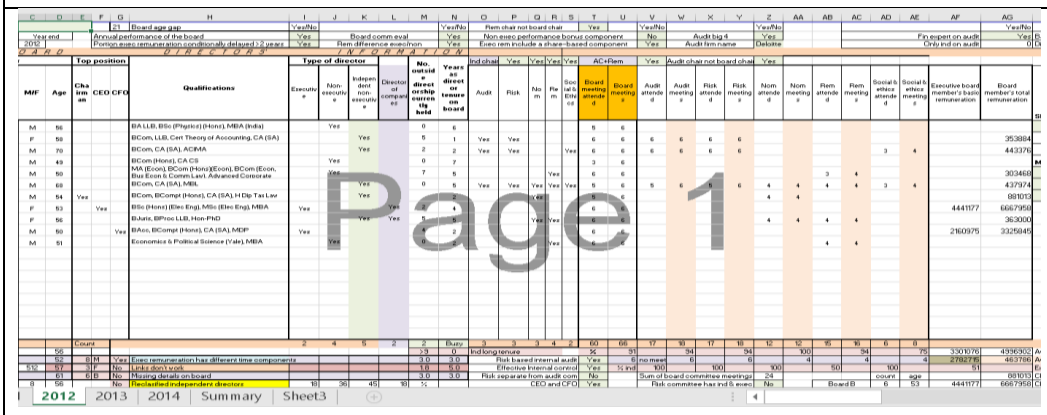
The data extraction focused on the data of companies and boards at financial year-end as reported in the annual financial statements and integrated reports, with the exclusion of shareholder data. Shareholder data were extracted at the end of January for all the companies and all the years. To ensure consistency in the way shareholders' information was summarised, a macro was used to classify shareholders in the various years to identify the larger shareholders based on their percentage shareholding. Where shareholder data were not available in IRESS, they were extracted from other databases like Thomson Reuters or from the integrated reports (that also frequently disclose large shareholders and directors' interest in shares).

The data extraction process was extremely time-consuming and costly as the study used narrower definitions of board control indicators for both the CI and the MLI indexes. Data on each individual director for each firm and each period were extracted manually and used to populate a spreadsheet for the further consolidation and analysis of the individual director's characteristics and activities to identify the data needed for the various indicators for the board.

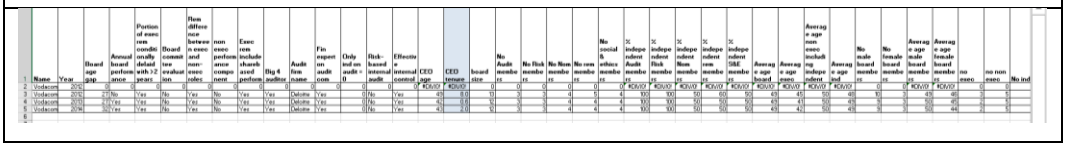
To facilitate the consistent analysis and summation of the extracted data, a template spreadsheet was developed to structure the process to ensure that the same layout encourages consistent data collection, while the underlying formulas ensured consistent analysis and summation of individual director's data to board-level data (refer to Figure 6-3). Data for each board was collected on its own spreadsheet resulting in 84 spreadsheets that summarised the collected data per year in the summary sheet that collected around 100 points to gather information for all the identified indicators.

Figure 6-3 Spreadsheet template

Spreadsheet template design



Spreadsheet template summary



Formulas were used in the spreadsheet to ensure correctness and consistency in the consolidation and summarisation of the extracted data. Summation was needed to transform the data collected from more than 3000 directors over the period of the study into indicators representing the boards over the different periods. The template with its formulas enabled accuracy and consistency in the summarisation process. Different sheets were used for the data applicable to different years, and a summary was provided on the last sheet. The summary sheet summarised approximately 100 datapoints for each year and each company to enable the study to construct the defined indexes. Thus, the summarised data that enabled index building in this study represent 25 200 data points (100×3×84 = 25 200). The use of standardisation and templates to reduce input errors is in line with normal document design principles applicable to source documents as an input control (Gray & Manson, 2005:279). The extracted data translated into over 3000 individual director observations for more than 100 indicators (per year) that had to be consolidated per board to populate the indicators and construct the indexes.

Unfortunately, manual extraction is prone to human error. To control for human error, separation of duties was applied between the person extracting the data and the person checking the data. Thus, although the initial data extraction was extremely time consuming and costly, the controls over the process was equally time consuming and costly. To ensure reliability, data were extracted by trainee accountants and research assistants and checked by another person[96] for accuracy. The data extraction, data capturing, and checking were all time consuming and each stage took months to complete. The time required ranged from an average of between an hour to two hours to extract the data per company per year. Checking the correctness of the extracted data required a replication of the original process that also took an average of between an hour to two hours per company per year. The biggest challenge was finding data not readily disclosed in the integrated report. The checking of the data ensured the reliability and correctness of the data as the checking process mimicked the extraction process.

6.7.3 Data analysis

Once the data had been extracted the template summaries were copied to a consolidated spreadsheet that combined all the data for all the company boards, and the data were reviewed again. This was followed by the coding of the various indicators and the construction of the indexes using formulas. The coding and formulas were reviewed for compliance with the indicator definitions described in chapters 4 and 5. Lastly, all the identified variables were transferred to the panel used by the study for analysis and testing (Figure 6-4).

[96] The extracted data were checked for completeness and accuracy mainly by the author. In some cases, easily verifiable data were checked by other research assistants to ensure timely completion.

Figure 6-4 Panel data

	C	D	E	F	G	H	I	J	K	L	M	N	O
cer	Year	RoA	RoE	EV	Q	Block	Consh	Dirsh	QAS	Ind	CCI	CI	MLI
H	2012	17.167	17.451	6.866	2.35	11.49	0	7.42	33.33	1	50	64	57
H	2013	15.149	18.253	8.128	2.08	16.41	0	7.48	33.33	1	50	64	43
H	2014	14.421	17.991	11.125	2.36	5.58	0	2.52	33.33	1	66.67	68	43
E	2012	10.283	11.024	122.363	1.1	23.08	0	0.01	33.33	0	66.67	84	57
E	2013	10.657	13.873	162.569	1.43	24.11	0	0.01	66.67	0	66.67	84	52
E	2014	12.046	14.186	167.248	1.44	25.31	0	0.02	66.67	0	66.67	76	48
X	2012	8.313	9.629	27.147	1.62	10	1	0	33.33	0	50	40	26
X	2013	8.659	9.65	26.275	1.38	16.39	1	0	33.33	0	16.67	28	48
X	2014	3.406	2.749	22.422	1.06	17.9	1	0	33.33	0	33.33	32	52
I	2012	14.651	14.819	185.092	1.13	26.6	0	41.33	66.67	0	83.33	72	70
I	2013	7.638	6.789	173.251	0.99	19.21	0	41.26	66.67	0	83.33	64	78
I	2014	2.907	12.324	204.74	1.25	19.08	0	41.07	66.67	0	83.33	68	78
L	2012	4.589	3.478	71.809	0.47	7.36	0	57.93	33.33	0	66.67	80	65
L	2013	-3.373	-6.286	82.655	0.44	7.36	0	57.93	33.33	0	50	68	74
L	2014	9.061	14.45	120.044	0.51	11.14	0	57.95	33.33	0	50	80	70
S	2012	-7.846	-13.402	495.214	1.49	0	1	0	66.67	0	66.67	64	57
S	2013	1.789	-2.747	455.673	1.29	0	1	0	66.67	0	66.67	72	48
S	2014	1.243	1.23	427.246	1.16	0	1	0	100	0	50	72	74
L	2012	-0.61	-3.851	341.215	0.89	11.26	0	0.1	66.67	0	33.33	48	87
L	2013	2.67	-2.804	347.334	0.8	15.97	0	0.12	66.67	0	33.33	36	78

The construction of a panel enabled the study to use descriptive and inferential statistics with econometric methods to analyse the data in line with the hypothesised model. Despite the development of a theoretical model to test the hypotheses, the main factor that influenced the analysis of the data was the nature of the data itself.

Descriptive statistics show the frequencies for normative data while for ratio data the means (averages), median, minimum, maximum, standard deviation and skewness are shown to help paint a picture of the central tendency (Howell, 1999:55-59) and variance (Howell, 1999:66-74) of the data.[97] Descriptive statistics render more information on individual variables. However, this study focused on the relationship between the dependent and independent variables and understanding individual variables does not produce more information on relationships between variables. A correlation analysis[98] was used to "measure the association between two numerical variables" (Sweet & Grace-Martin, 2003:87). A correlation test produces a correlation coefficient, which shows "the degree or strength" of the relationship and the covariance, which shows "the degree by which two variables vary together" (Howell, 1999:142 and 151). These measures do not show the cause of the relationship.

[97] The visual representation of central tendency and variability in the form of a histogram with a normal distribution curve has been included for the different variables in Appendixes 3 to 6.

[98] A more detailed discussion on the correlation method used is provided in chapter 7 with the analysis.

Using statistical methods such as correlation or regression analysis enabled the study to identify the relationships between variables as well as identify the significance of these relationships. The term ‘significance’ considers “estimates of probability that indicate the degree to which chance is a likely explanation for the observed patterns” (Sweet & Grace-Martin, 2003:88). A strong positive statistically significant relationship therefore not only identifies an existing relationship but is an indication that it can be used to predict the effect of the relationship on the related variables. A strong correlation between control and independent variables can be an indication of multicollinearity and an unstable regression model. Multicollinearity is tested in the next chapter.

As the study focused on the relationship between multiple variables, a multiple linear regression model is better suited to assess the relationship. Multiple regression shows “how two or more variables act together to affect a dependent variable” (Sweet & Grace-Martin, 2003:131 & 139) using the following model:

$$Y = \alpha_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \ldots + \beta_k X_{kit} + \varepsilon_{it}$$

Y, the dependent variable, is a linear function of X_{kit} independent variables. β_0 the intercept is a constant, and β is the regression coefficient for each X variable and indicates the slope of the relationship on a line. ε the error or residual is assumed to be zero. i and t represent the number of cases and the time periods in consideration of the cross-sectional and time series nature of panel data. This can be translated to the variables used in this study as follow:

$$\text{Firm value}_{it} = \alpha_0 + \beta_1 \text{BLOCK}_{it} + \beta_2 \text{CONSHA}_{it} + \beta_3 \text{DIRSHA}_{it} + \beta_4 \text{QAS}_{it} + \beta_5 \text{IND}_{it} + \beta_6 \text{CCI}_{it} + \beta_7 \text{CI}_{it} + \beta_8 \text{MLI}_{it} + \varepsilon_{it}$$

To obtain a better understanding of the relationship between the variables, the study first used a cross-sectional multiple regression on a year-by-year analysis of the model. This analysis also considered the effect of a negative lagged dependent variable as there are indications of a lag in the literature. Thereafter the model was tested using pooled OLS with the Breusch-Pagan variation of the Lagrange Multiplier test to test for heteroscedasticity and random coefficient variation.

Given the short time dimension[99] thus study does not report on serial correlation tests for the panel, but heterogeneity is considered. The cross-sectional and time series nature prompted the study to use panel analysis as panel data can control "for unobserved time invariant heterogeneity in cross-sectional models" and help to "study the dynamics of cross-sectional populations" (Arellano, 2003:7). There are alternative econometric methods available for panel data namely Random Effects and Fixed Effects using OLS or GLS. However, the data will determine the best estimation method after considering the results of the Breusch-Pagan and Hausman tests. More information on these tests is included in chapter 7.

6.8 Summary

The research purpose dictates the research methods, design and approach followed in addressing the research objectives and testing the hypotheses. This chapter summarised the research methodology followed to achieve the objectives and purpose of the study. The study uses descriptive research to describe the controls used by the board as a governance mechanism supported by index development to measure the boards' controlling (CI) and directional (MLI) use of board-level controls. The development of quantifiable indexes is in line with the quantitative research design as well as a post-positivist world view used by this study and enable the study to measure the controls used by the board to achieve the study's sub-objectives. The quantification of the indexes enabled this study to use econometric analysis to assess the relationship between the board as a governance mechanism and firm value to test the study's hypotheses.

This study extended the index building practice of Gompers *et al.* (2003) by constructing the CI and MLI indexes to measure the controls used by the board as a governance mechanism. In addition to the CI and MLI indexes the study also constructed two control indexes the QAS and CCI indexes. The underlying data

[99] This study did not discuss the alternative statistical methods commonly used for macro panels or longer time-series of around ten years.

used to populate the indexes were extracted from integrated reports and websites (publicly available information) using a structured content analysis. The structured nature of the content analysis guided the data collection to ensure valid and reliable data is extracted in a value neutral manner in line with the post-positivist world view.

The use of externally observable data from published records resulted in a non-experimental design as none of the variables or indicators were manipulated in the collection process. The use of value neutral quantitative data enables econometric methods to analyse the panel variables in a manner that helps to identify the association between specific individual variables while holding the other variables constant. Econometric methods analyse data in a manner that simulate an experimental design to identify the associations of individual predictor variables in the dependent variable while holding the other variables constant.

The study is based on the boards of 84 SRI index companies between 2012 and 2014 resulting in a near population coverage given the limitations of a balanced panel. The timing of the study started in 2012 when the 2008 Companies Act came into effect and ends in 2014 as the SRI index changed in 2015 to focus this study on the changed legislative environment that bond the control options of the board and allocated specific decision or approval control to shareholders. Data from 84 companies over three time periods enabled the study to develop a balanced micro panel for further panel analysis using Random and Fixed Effects. Panel analysis can help to control for cross-sectional heterogeneity, improves the sample size and are better able to identify effects when compared to a purely cross-sectional or time series model.

The phase 1 data were extractible from IRESS. Phase 2 defined the data required for the control variables and the index indicators and extracted the control variables where data was readily available in IRESS. Phase 3 used a structured content analysis to extract and summarise the required data to populate the remaining control variables and the CI and MLI indexes to achieve SO 1 and SO 2.

Phase 4 performs the statistical analysis to test the hypotheses, enabling the study to achieve the main research objective (RO), as described in chapter 7. Chapter 7 discusses the results of the analysis and tests performed on the collected data and enable the study to test the hypotheses and achieve the study's outcomes.

CHAPTER 7: DISCUSSION OF RESULTS

"Progress, of the best kind, is comparatively slow. Great results cannot be achieved at once; and we must be satisfied to advance in life as we walk, step by step."
Samuel Smiles

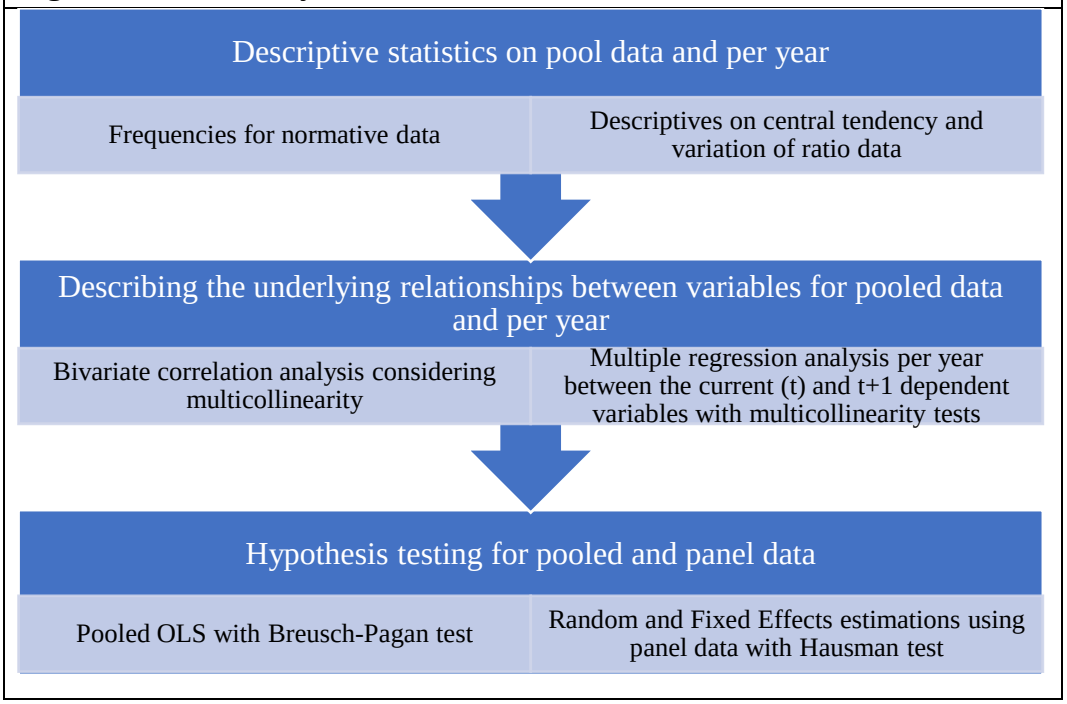
7.1 Introduction

In chapter 6 the research methodology followed in this study was described from the perspective of the research approach, design and methods applied to collect and analyse the required data into a panel data set.[100] In the discussion on research methods, the variables and index indicators identified in the preceding chapters were highlighted, and the research methods used to collect and analyse the required data explained. In this chapter the emphasis is on discussing the analysis of the collected data and the procedures used to test the hypotheses. When assessing controls in auditing it is important to clearly describe the full process followed to allow other auditors to follow the logic and steps of the process in a reliable manner.

This chapter's discussion uses a descriptive format to explain the various steps taken in the assessment of the data from descriptive statistics ending in Random and Fixed Effects panel estimations to test the hypotheses. The data analysis methods used are summarised in Figure 7-1.

[100] This study used a short or micro panel to test the hypothesis as it included a relatively large cross-section with a time period of only three years (Arellano, 2003:1).

Figure 7-1 Data analysis methods



This chapter begins with a brief discussion of the descriptive statistics for all the variables identified to consider the nature of the underlying data in section 7.2. The descriptive statistics discussion is followed by a bivariate Pearson product-moment correlation and cross-sectional multiple regression analysis using the ordinary least squares (OLS) method in section 7.3. The correlation and regression analyses were used to perform a more detailed analysis to obtain a better understanding of the nature of the relationship between the variables on a year-by-year basis that focuses on the cross-sectional nature of the data.

The main assessment used in this study is the hypotheses testing discussed in section 7.4 that begins with pooled OLS estimators with a Breusch-Pagan adaptation of the Lagrange Multiplier (LM) tests to assess the underlying data to determine the most suitable analysis method. This is followed by Random Effects panel estimation with Hausman's test and Fixed Effects panel estimation to assess the hypotheses. More detail on the various options used in the Random and Fixed Effects estimations are discussed in section 7.4.3. Lastly, section 7.5 summarises

the results of the hypotheses testing and presents the conclusions on the study's research objectives.

7.2 Descriptive statistics

The development of descriptive statistics is dependent on the nature and levels of measurement of the data in the underlying variables. Data that are nominal, like a company's name, or a dichotomous variable (where there is a choice between mutually exclusive categories) are of a qualitative nature and the frequency and percentage of their occurrence are used for descriptive statistical purposes (Levin & Fox, 2006). The nominal variables are summarised in Table 7-1, which describes the frequency and percentage occurrence for each period of the study as well as for the whole period, as pooled data, to better understand the distribution of the underlying data.

Table 7-1 Descriptive statistics for variables represented by nominal data

Per year		Frequency	Percent	Valid Percent	Cumulative Percent
2012	No controlling shareholder	55	65.5	65.5	65.5
	Controlling shareholder	29	34.5	34.5	100.0
	Primary sector	41	48.8	48.8	48.8
	Consumer-centred sector	43	51.2	51.2	100.0
2013	No controlling shareholder	56	66.7	66.7	66.7
	Controlling shareholder	28	33.3	33.3	100.0
	Primary sector	41	48.8	48.8	48.8
	Consumer-centred sector	43	51.2	51.2	100.0
2014	No controlling shareholder	56	66.7	66.7	66.7
	Controlling shareholder	28	33.3	33.3	100.0
	Primary sector	41	48.8	48.8	48.8
	Consumer-centred sector	43	51.2	51.2	100.0

Table 7-1 Descriptive statistics for variables represented by nominal data - continued

For 2012 to 2014	Frequency	Percent	Valid Percent	Cumulative Percent
No controlling shareholder	167	66.3	66.3	66.3
Controlling shareholder	85	33.7	33.7	100.0
Primary sector	123	48.8	48.8	48.8
Consumer-centred sector	129	51.2	51.2	100.0

The assumptions of the agency theory, discussed in more detail in chapter 3, include the assumption that there is a separation of duties between the shareholders and the board. This is less likely in situations where there are controlling shareholders. As around two-thirds (66.3%) of the companies to which the pooled data relate do not have a controlling shareholder, the likelihood of agency cost due to goal divergence is applicable to the boards the study focuses on. There was a small decrease in the number of controlling firms between 2012 and 2013. In 2012, 65.5% of the boards of companies had no controlling shareholder but this increased to 66.7% in 2013.

An assessment of the difference between shareholder groups (shown in Table 7-2) using t-tests on the pool (2012-2014), shows that except for CI there are significant differences between the means of the group controlled by a controlling shareholder and the group with no controlling shareholder, supporting the use of an agency theory perspective. The existence of a controlling shareholder shows lower levels of directors' shareholding or blockholding. Monitoring by a controlling shareholder resulted in higher levels of assurance as evidenced by the higher QAS mean, with lower use of company controls as shown by a lower CCI score. The higher mean for MLI for companies without a controlling shareholder suggests that diverse shareholders rely more on the directional role of the board as a monitoring mechanism as measured by the MLI index to compensate for their lack of monitoring. However, there is not a significant difference between the groups for

CI suggesting that the controlling role of the board are possibly more influenced by governance recommendations than goal alignment.

Table 7-2 Influence of controlling shareholders

For 2012 to 2014		N	Mean
BLOCK	No controlling shareholder	167	23.347***
	Controlling shareholder	85	14.545***
DIRSHA	No controlling shareholder	167	4.36*
	Controlling shareholder	85	2.052*
QAS	No controlling shareholder	167	46.706***
	Controlling shareholder	85	57.648***
CCI	No controlling shareholder	167	51.897***
	Controlling shareholder	85	43.53***
CI	No controlling shareholder	167	60.24
	Controlling shareholder	85	59.01
MLI	No controlling shareholder	167	67.48***
	Controlling shareholder	85	59.871***

***** significant at the 0.01 level; ** significant at the 0.05 level; * significant at the 0.10 level.**

The split between primary and consumer-centred industries (shown in Table 7-1) is around 50:50, with the primary sector at 48.8% and the consumer-focused sector at 51.2%. An assessment of the difference between industry groups (shown in Table 7-3) using t-tests focusing on the different industries for the pool shows significant differences for QAS and CI.

Table 7-3 Influence of the different industries

Description		N	Mean
BLOCK	Primary industries	123	19.3020
	Consumer industries	129	21.4038
DIRSHA	Primary industries	123	3.3002
	Consumer industries	129	3.8487
QAS	Primary industries	123	53.39**
	Consumer industries	129	47.545**
CCI	Primary industries	123	48.6456
	Consumer industries	129	49.4835
CI	Primary industries	123	63.77***
	Consumer industries	129	56.062***
MLI	Primary industries	123	65.32
	Consumer industries	129	64.53

***** significant at the 0.01 level; ** significant at the 0.05 level; * significant at the 0.10 level.**

There was no industry-related change over the different periods resulting in industry being a constant over time. The constant nature of the industry classification was taken into consideration in the Fixed Effects estimations in section 7.4. For both CI and QAS the controls used by the primary sector had higher means, suggesting the regulatory environment of the primary industries result in higher legislative or regulatory control demands.

This study relied mainly on ratio data that use measurement scales with equal intervals between data points and a true zero point (Field, 2009:9). Examples of the ratios used in this study are the four proxies for firm value, namely RoA, RoE, EV and Q. The descriptive statistics for the different proxies for firm value as the dependent variables are summarised in Table 7-4 for the combined three-year period as well as each year.

Table 7-4 Descriptive statistics for the dependent variable proxies

2012 to 2014		ROA	RoE	EV	Q
N	Valid	252	252	252	252
Mean		9.8249	12.167	190.9175	1.5584
Median		8.5331	14.4683	103.399	1.12
Std deviation		13.12715	46.99257	260.21304	1.30104
Variance		172.322	2208.301	67710.824	1.693
Minimum		-40.31	-483.65	1.05	0.13
Maximum		63.73	81.61	1726.47	6.2
Percentiles	25	1.8484	7.7645	44.6906	0.7825
	50	8.5331	14.4683	103.399	1.12
	75	14.665	21.9934	224.0905	1.805

Table 7-4 Descriptive statistics for the dependent variable proxies - continued

Year			ROA	RoE	EV	Q
2012	N	Valid	84	84	84	84
	Mean		10.5578	10.7025	176.7535	1.5965
	Median		8.533	14.714	92.168	1.13
	Std deviation		13.26028	52.68265	242.68792	1.34352
	Variance		175.835	2775.461	58897.426	1.805
	Minimum		-25.76	-422.655	1.05	0.13
	Maximum		63.37	81.61	1457.79	6.09
	Percentiles	25	2.4628	7.2585	44.0838	0.7875
		50	8.533	14.714	92.168	1.13
		75	15.908	23.1288	191.1513	1.8425
2013	N	Valid	84	84	84	84
	Mean		9.227	8.7221	188.1115	1.5869
	Median		7.6805	14.237	93.8405	1.135
	Std deviation		15.36947	60.25877	255.97093	1.36009
	Variance		236.223	3631.119	65521.117	1.85
	Minimum		-40.314	-483.65	1.26	0.13
	Maximum		63.732	74.15	1610.64	6.1
	Percentiles	25	1.5228	6.8915	42.8783	0.7775
		50	7.6805	14.237	93.8405	1.135
		75	15.4768	21.629	223.7285	1.965
2014			N	Valid	84	84
	Mean	9.6898	17.0766	207.8875	84	84
	Median		8.7235	14.5505	114.0145	1.4917
	Std deviation		10.39903	15.26335	282.56512	1.1
	Variance		108.14	232.97	79843.046	1.20715
	Minimum		-6.95	-8.97	1.48	1.457
	Maximum		43.62	57.89	1726.47	0.13
	Percentiles		25	1.117	9.416	6.2
	Percentiles	25	1.117	9.416	45.1255	0.7675
		50	8.7235	14.5505	45.1255	0.7675
		75	13.997	21.5383	114.0145	1.1

The value of descriptive statistics lies in its ability to describe the data to improve insight into the central tendency and distribution of the data. Both RoA

and RoE could be negative in situations where the company made a loss, but the market-related data linked to EV and Q cannot move below zero.[101] The high variance of RoE and EV could be an early warning of heteroskedasticity as Studenmund (2011:346) warns that "cross-sectional studies with large variations in the size of the dependent variable are particularly susceptible to heteroskedasticity". More details on the different proxies for firm value as the dependent variables have been summarised in Appendix 3. The study specifically considered heteroskedasticity in the hypotheses testing section.

The only descriptive variable with an increasing mean trend is EV with Q following a reducing trend. The differences in the performance of the two market-related variables may be attributed to the exclusion of cash in the EV formula as well as to differences between them in respect of the divisions used. EV is divided by the number of shares whereas Q is divided by assets valued at replacement cost. The means of both RoA and RoE decreased between 2012 and 2013, with RoE increasing above its 2012 value in 2014 while RoA increased as well, but not above its 2012 level. The latter highlights the advantage of using outside funding (leverage) for increased return despite the increased risk to shareholders.

Descriptive statistics for the control variables are also mostly ratio data except for the two variables described above for the industry (IND) and controlling shareholders (CONSHA). The study controls for the percentage shareholding held by blockholders (BLOCK) who are not controlling shareholders and directors' shareholding (DIRSHA) to control for the monitoring by shareholders. Together with the 34.5%-33.3% (Table 7-1) of the companies being controlled by a controlling shareholder, blockholders control around 20% and the board another $\pm$3.5% although the median board control is less than 0.5% (Table 7-5). The level of shareholder control is a clear indication that there is remains a clear level of separation of ownership from control which is a cornerstone of the agency theory.

[101] Negative values influence data transformation options as log or inverse transformations are not possible and squared values could adversely influence the functional relationship.

As shareholders appoint both the audit firm and the audit committee, the quality audit score (QAS) represents assurance used by shareholders to bond the board to transparent and reliable reporting practices using quality assurance as monitor. The last control variable is a company control index (CCI) that combines several company control considerations that represent past board or shareholder decisions that are beyond the control of the board in the current period but could influence their control options. This study extended the practice of index construction to also include QAS and CCI as control variables.

A detailed summary of the control variables is included in Appendix 4. The descriptive statistics for the ratio control variables are summarised in Table 7-5, showing the statistics by year as well as for the whole period.

Table 7-5 Descriptive statistics for the control variables

Year			BLOCK	DIRSHA	QAS	CCI
2012	N	Valid	84	84	84	84
	Mean		20.688	3.7414	48.8093	49.6037
	Median		19.59	0.215	33.33	50.0
	Std deviation		12.8715	8.99793	22.2269	22.2519
	Variance		165.677	80.963	493.981	495.149
	Minimum		0.0	0.0	0.0	0.0
	Maximum		57.14	57.93	100.0	100.0
	Percentiles	25	11.5	0.0325	33.33	33.3333
		50	19.59	0.215	33.33	50.0
		75	28.0525	2.7275	66.67	66.67
2013	N	Valid	84	84	84	84
	Mean		20.2575	3.4844	50.7938	48.2149
	Median		18.735	0.235	66.67	50.0
	Std deviation		12.16119	8.91556	22.24362	21.4934
	Variance		147.895	79.487	494.779	461.67
	Minimum		0.0	0.0	0.0	0.0
	Maximum		57.84	57.93	100.0	83.33
	Percentiles	25	11.0025	0.02	33.33	33.33
		50	18.735	0.235	66.67	50.0
		75	28.195	2.315	66.67	66.67

Table 7-5 Descriptive statistics for the control variables - continued

Year			BLOCK	DIRSHA	QAS	CCI
2014	**N**	**Valid**	**84**	**84**	**84**	**84**
	Mean		20.1882	3.517	51.5874	49.4045
	Median		18.775	0.265	66.67	50.0
	Std deviation		12.41152	10.00674	22.20059	21.86818
	Variance		154.046	100.135	492.866	478.217
	Minimum		0.0	0.0	0.0	0.0
	Maximum		56.40	57.95	100.0	100.0
	Percentiles	25	11.2425	0.0225	33.33	33.33
		50	18.775	0.265	66.67	50.0
		75	28.555	1.6225	66.67	66.67

2012 to 2014		BLOCK	DIRSHA	QAS	CCI
N	Valid	252	252	252	252
Mean		20.3779	3.581	50.3968	49.0745
Median		19.09	0.24	66.67	50.0
Std deviation		12.43702	9.28346	22.16553	21.79471
Variance		154.679	86.183	491.311	475.009
Minimum		0.0	0.0	0.0	0.0
Maximum		57.84	57.95	100.0	100.0
Percentiles	25	11.3275	0.0225	33.33	33.33
	50	19.09	0.24	66.67	50.00
	75	28.3675	2.41	66.67	66.67

Although the means and medians for BLOCK and DIRSHA show small variations over time, the median of CCI is constant at 50 over the period. The small median of DIRSHA in comparison to the mean indicates that directors' shareholdings are generally small, which could increase goal divergence. The mean of the QAS shows an increasing trend over time, which could be attributable to a rising need to use quality assurance as a monitor to ensure transparent disclosure practices and compliance with the new stricter legislative and regulatory requirements. The indexes developed by this study (QAS, CCI, CI and MLI) are all measured using percentages, and BLOCK and DIRSHA represent the respective percentage shareholding.

The last variables that need to be considered are the independent variables, namely the CI and MLI indexes. Together the CI and MLI indexes represent the board as a governance mechanism. In addition to the QAS and CCI indexes this study extended the body of knowledge on the board as a governance mechanism by constructing indexes that represent an in-depth analysis of board-level controls in the corporate control and managerial labour constructs. The definitions of and indicators for the CI and MLI indexes were given in chapters 4 and 5 and summarised in Appendixes 5 and 6 respectively. Descriptive statistics relating to the CI and MLI indexes as independent variables are summarised in Table 7-6 for the whole period as pooled data and on a year-by-year basis.

Table 7-6 Descriptive statistics for the independent variables

Variable and period	Mean	Median	Std deviation	Variance	Minimum	Maximum
CI 2012-2014	59.83	60.0	14.288	204.145	24	88
MLI 2012-2014	64.91	65.0	13.113	171.953	22	100

		CI 2012	CI 2013	CI 2014	MLI 2012	MLI 2013	MLI 2014
N	Valid	84	84	84	84	84	84
	Missing	0	0	0	0	0	0
Mean		58.86	59.29	61.33	63.4	64.88	66.45
Median		60.0	60.0	60.0	65.0	65.0	65.0
Std deviation		14.543	14.351	14.013	14.496	12.455	12.25
Variance		211.497	205.941	196.369	210.123	155.118	150.058
Minimum		32	28	24	22	30	43
Maximum		88	88	88	96	91	100
Percentiles	25	48.0	48.0	52.0	57.0	57.0	57.0
	50	60.0	60.0	60.0	65.0	65.0	65.0
	75	72.0	71.0	72.0	74.0	74.0	74.0

The CI and MLI indexes both have constant medians and show a slight upwards trend in their means. Both the means and medians are close suggesting a normal distribution with a limited range through the period showing a lack of outliers in the independent variables. In the CI index there is a more dramatic

improvement in the lower percentiles, with an increase from 48 in 2012 and 2013 to 52 in 2014.

In contrast, the MLI percentiles are constant. The consistent nature of the percentiles and median for the MLI index could indicate a higher level of maturity linked to the directional role of the board. To obtain a better understanding of the relationships between the variables, a correlation analysis and cross-sectional regression analysis are done in the next section.

7.3 Correlation and cross-sectional regression analyses

Testing a relationship or correlation between two variables can help to identify the significance and size of the correlation or relationship, but it does not indicate the cause of the relationship (Field, 2009:173). With the use of multiple explanatory variables (the control as well as independent variables), a cross-sectional analysis can identify the relationship between the variables at a point in time. Section 7.3.1 introduces correlation analysis; this is followed by section 7.3.2, which focuses on the correlation analysis between the variables considering each period separately as well as the combined period as pooled data and to assess possible multicollinearity problems. Section 7.3.3 focuses on the cross-sectional regression analysis of the variables for the individual years to better understand the underlying relationships between the variables, to consider a negative lag[102] to firm value, the dependent variable and to assess possible multicollinearity problems.

7.3.1 Correlation analysis

This study calculated the Pearson's product-moment correlation coefficient for each of the different years (Pearson's correlation). A value of +1 indicates a perfectly positive correlation between two variables and a value of -1 indicates a perfectly negative correlation relationship (Field, 2009:170). To describe the

[102] A negative lag is the opposite of a lag and is used to indicate that there is a delayed relationship with future events, whereas the term lag relates to a delayed relationship to the past.

different strengths of a correlation, irrespective of whether it is positive or negative, this study describes correlations of r = 0.1 to 0.29 as weak, r = 0.3 to 0.49 as moderate and correlations of r = 0.5 and above as strong (Pallant, 2007:132).

A Pearson's correlation was used on the cross-sectional data using SPSS as the variables are mostly based on ratio data, and it is also possible to use Pearson between interval or ratio data and dichotomous variables (Pallant, 2007:126). However, it is recommended that a point-biserial correlation coefficient be used to measure the strength of the linear relationship between an interval or ratio variable and a dichotomous variable (Field, 2009:183). In SPSS the Pearson's correlation coefficient analysis is used to calculate a point-biserial correlation; however, the dichotomous variables must be coded as 0 and 1, as was the case in this study.

To calculate a Pearson's correlation coefficient two assumptions need to be satisfied, the first is that the variables are normally distributed (or that a large sample is used), and the second is that interval or ratio data are used with categorical variables that only have two categories (Field, 2009:177). Field (2009:42) explains that "as samples get large (usually defined as greater than 30), the sampling distribution has a normal distribution". As this study is based on 84 boards of companies (more than 30) and three years (252 observations)[103] and uses interval or ratio data with 0;1 coded dichotomous variables, the assumptions are satisfied.

7.3.2 Correlations between the variables

It is important to consider the correlations between all the variables used in the study to better understand the underlying relationships between the variables. The results of the correlation analysis for the variables for all the periods combined are shown in Table 7-7 (ignoring the difference in years). This is followed by correlation analysis on a year-by-year basis with the significant relationships highlighted in Table 7-8.

[103] Wooldridge (2013:142) explains that even when a dependent variable is not normally distributed "the central limit theorem concludes that OLS estimators satisfy **asymptotic normality**" in "large enough sample sizes".

As the dependent variables are proxies for firm value, their relationship with each other is not considered a risk for multicollinearity and thus the strong positive correlation ($r = 0.754$; $p < 0.01$) between Tobin's Q and RoA (Table 7-7) in the pooled data is not a concern and they will not be assessed together. The second highest score is between RoA and RoE ($r = 0.466$; $p < 0.01$), less than 0.7 but was also not a concern as the dependent variable proxies are not run together in the regression. Thus, multicollinearity is not a concern. Where there is a significant relationship between an independent and dependent variable the correlation is noted in the relevant tables. Pink colouring is used in the tables to highlight results that are considered to be important either because of statistical significance or to highlight possible problem areas.

Table 7-7 Correlation analysis – all periods

2012-2014	RoA	RoE	EV	Q	BLOCK	CONSHA	DIRSHA	QAS	Industry	CCI	CI
RoA	1										
RoE	.466***										
EV	-0.043	0.074									
Q	.754***	.248***	0.028								
BLOCK	0.046	0.016	-.154**	0.118							
CONSHA	-0.101	0.038	0.091	-0.083	-.335***						
DIRSHA	-0.054	-0.008	-0.098	-0.012	0.039	-0.118*					
QAS	-.221***	-0.030	.267***	-.238***	-0.074	.234***	-0.057				
Industry	.181***	0.051	.201***	.368***	0.085	-0.009	0.030	-.132**			
CCI	.312***	0.025	.230***	.264***	-0.096	-.182***	0.098	-0.013	0.019		
CI	0.079	-0.028	0.013	-0.079	-0.109*	-0.041	0.005	0.073	-.270***	.373***	
MLI	0.006	0.051	.223***	0.014	-0.006	-.275***	0.086	0.064	-0.030	0.121	-0.061

***** Correlation is significant at the 0.01 level (2-tailed); ** Correlation is significant at the 0.05 level (2-tailed). * Correlation is significant at the 0.1 level (2-tailed)**

The focus of this study is on the relationship between the dependent and independent variables. The only significant relationship in the pool analysis between independent and dependent variables is between MLI and EV, the relationship is weakly positive and highly significant ($r = 0.223$; $p < 0.01$). The correlation between the control and independent variables are only important for possible multicollinearity considerations, which is not a problem given the results.

Table 7-8 Correlation analysis – per year

Year 2012	RoA	RoE	EV	Q	BLOCK	CONSHA	DIRSHA	QAS	Industry	CCI	CI
RoA	1										
RoE	.540***										
EV	-0.029	0.091									
Q	.796***	.233**	0.028								
BLOCK	0.019	0.028	-0.181	0.126							
CONSHA	-0.063	0.108	0.135	-0.087	-.325***						
DIRSHA	-0.021	0.018	-0.121	-0.024	0.046	-0.146					
QAS	-0.105	0.176	.328***	-0.205*	-0.078	.285***	-0.046				
Industry	0.125	-0.030	0.175	.348***	0.114	0.008	0.012	-0.071			
CCI	.319***	-0.048	0.211*	.277**	-.247**	-0.157	0.107	-0.055	0.072		
CI	0.122	-0.157	0.025	-0.033	-0.070	-0.060	0.046	0.070	-.295***	.383***	
MLI	-0.056	0.032	.294***	-0.019	-0.038	-.264**	0.060	0.134	0.003	0.121	0.026

***** Correlation is significant at the 0.01 level (2-tailed); ** Correlation is significant at the 0.05 level (2-tailed). * Correlation is significant at the 0.1 level (2-tailed)**

MLI is highly significantly positively related to EV but the effect size is weak ($r = 0.223$; $p < 0.01$).

Table 7-8 Correlation analysis – per year continued

Year 2013	RoA	RoE	EV	Q	BLOCK	CONSHA	DIRSHA	QAS	Industry	CCI	CI
RoA	1										
RoE	.396***										
EV	-0.004	0.083									
Q	.722***	0.208*	0.015								
BLOCK	0.114	0.002	-0.179	0.153							
CONSHA	-0.124	0.025	0.095	-0.076	-.362***						
DIRSHA	-0.082	-0.030	-0.099	-0.012	0.015	-0.142					
QAS	-.292***	-0.186*	0.184*	-.278**	-0.144	.317***	-0.082				
Industry	0.207*	0.040	0.202*	.373***	0.103	-0.017	0.026	-0.162			
CCI	.329***	0.012	.239**	.265**	-0.137	-0.197*	0.090	0.018	0.011		
CI	0.093	0.082	-0.020	-0.099	-0.160	-0.064	-0.012	0.045	-.223**	.334***	
MLI	0.048	0.078	0.175	0.004	0.096	-.303***	0.121	0.047	-0.073	0.154	-0.165

***** Correlation is significant at the 0.01 level (2-tailed); ** Correlation is significant at the 0.05 level (2-tailed). * Correlation is significant at the 0.1 level (2-tailed)**

None of the independent variables showed a significant relationship with any of the dependent variables.

Table 7-8 Correlation analysis – per year continued

Year 2014	RoA	RoE	EV	Q	BLOCK	CONSHA	DIRSHA	QAS	Industry	CCI	CI
RoA	1										
RoE	.784***										
EV	-0.112	0.043									
Q	.771***	.690***	0.046								
BLOCK	-0.0175	0.047	-0.108	0.071							
CONSHA	-0.121	-0.120	0.051	-0.087	-.322***						
DIRSHA	-0.060	-0.014	-0.077	0.000	0.054	-0.072					
QAS	-.271**	-0.169	.286***	-.226**	0.000	0.102	-0.044				
Industry	.223**	.416***	.225**	.388***	0.036	-0.017	0.049	-0.164			
CCI	.291***	.344***	.242**	.252**	0.100	-0.194*	0.095	0.036	-0.027		
CI	0.011	-0.088	0.024	-0.101	-0.098	0.005	-0.016	0.096	-.296***	.404***	
MLI	0.048	0.0145	0.190*	0.080	-0.062	-.263**	0.087	-0.014	-0.026	0.089	-0.084

***** Correlation is significant at the 0.01 level (2-tailed); ** Correlation is significant at the 0.05 level (2-tailed).* Correlation is significant at the 0.1 level (2-tailed)**

MLI is moderately significantly positively related to EV but the effect size is weak ($r = 0.190$; $p < 0.1$).

As all the periods were used in the first correlation analysis (forming a balanced pool), any correlation between variables over time could also have been influenced by a time-related correlation. None of the control and independent variables was strong enough ($r = 0.7$ or above) to be an indication of a multicollinearity problem (Pallant, 2007:155). The only significant relationship between an independent variable and a proxy for firm value was between MLI and EV with a highly significant but weak positive relationship, in line with the hypothesised relationship ($r = 0.223$; $p < 0.05$) for the pooled data and for 2012 ($r = 0.294$; $p < 0.01$), tapering to a moderately significant and week relationship in 2014 ($r = 0.190$; $p < 0.1$). A review of the other relationships between the dependent and independent variables showed very week relationships that were not significant but with different signs.

Board-level control and direction can be amended during a year as board members change or as control needs change during board meetings, but a negative sign would suggest a control where the costs exceed the benefits. The poor correlation to firm value could be ascribed to the control-related nature of the indexes where a balance between costs and benefits of the controls are considered. The balance between the cost and benefit of controls can be linked to the utility maximisation principle were the expected utility gained from the use of a control is expected to exceed the cost of the control. As board-level controls have been in existence for several years the utility obtained from the controls might have diminished over time as the control cease to further reduce slacking or control for other moral hazards including excessive perquisites or rent taking. The increased legislative environment could also influence the cost benefit balance of controls as legislative compliance are compulsory irrespective of the cost of compliance or the benefit thereof.

One of the limitations of a correlation analysis is that it focuses on assessing the relationship between two variables at a point in time which has limitations in the assessment of multiple variables. To aid in better understanding the relationship between the variables, a year-by-year cross-sectional multiple regression analysis

is used in the next section to consider the relationship between the multiple variables at different points in time.

7.3.3 Cross-sectional multiple regression analysis

By considering the variables at a point in time it is also possible to test for a possible negative lag effect on the dependent variable. Section 4.3.1 notes that monitoring controls would wait for confirmation of poor performance from accounting results before action is taken which in turn will take time for the corrective action to filter though to improved firm performance and value. The negative lagged effect is tested by comparing the results of the multiple regression analysis with the dependent variable in the current year and contrasting them with the results for the following year's dependent variable (t+1). The influence of past performance of firm value forms part of the CCI score, a control variable, as discussed in section 4.2.6.2.

As the following year's dependent variables are easily extractible from INET BFA, additional dependent variables were added to the panel for t+1 dependent variables (referred to as NY for next year). Adding additional variables enabled the study to maintain a three-year balanced panel[104]. To better understand the relationship between the dependent and independent variables while controlling for the cross-sectional effect of the control variables a cross-sectional year-by-year regressions were performed using an OLS linear regression model in SPSS. All the variables were entered together, and the detailed analysis results have been summarised in Appendix 7. One of the advantages of assessing the relationship between the variables in a regression analysis is the additional testing of multicollinearity (where "the predictors[105] are highly correlated with each other"), which could lead to an unstable regression (Howell, 1999:200).

[104] Due to the takeover of BCX after 2014 its next year's dependent variables (for 2015) were estimated using the results of the dependent variables for 2010 to 2014 to maintain a balanced panel, all the next year variables for all the other subjects were extracted from INET BFA.
[105] Predictors refer to the combined relationship between the control variables and independent variables and the dependent variable.

The results of the regression analysis can be interpreted using the following:

- R is the value of the multiple correlation coefficient and measures the quality of the prediction of the dependent variable (Field, 2009:235).
- R squared (R^2), the coefficient of determination, "is a measure of how much of the variability in the outcome is accounted for by the predictors" (Field, 2009:235).
- Adjusted R^2 gives an "idea of how well [the] model generalizes" and should be the same or close to R^2; when the values are close it is an indication that the cross validity of the model is very good (Field, 2009:235).
- F-ratio "is calculated by dividing the average improvement in the prediction of the model by the average difference between the model and the observed data". F is greater than 1 if the "improvements due to fitting the model are much greater than the inaccuracy within the model" (Field, 2009:237).
- p represents the probability of the results occurring by chance (Field, 2009:237).
- β or beta indicates "to what degree each predictor affects the outcome if the effects of all other predictors are held constant" (Field, 2009:238).
- t-statistic measures whether the predictor is making a statistically significant contribution to the model (Field, 2009:239).
- VIF is the variance inflation factor, a "measure of whether there is collinearity in the data". If the "VIF is greater than 10" it can be an indication of a multicollinearity problem, values close to 1 confirm "that collinearity is not a problem". (Field, 2009:242).

The cross-sectional multiple regression models are run for descriptive purposes to consider the relationship between the independent variables and firm value at a point in time. The results summary focuses on the independent variables per dependent variable for the current period and the next year's (NY) dependent variable (t+1), per year, to consider a possible negatively lagged relationship and to

test for multicollinearity. Multicollinearity can be a problem but a review of the correlation analysis (section 7.3.2) did not indicate a multicollinearity problem. The Tolerance and VIF results showed no very low Tolerance values, as they were all above 0.10, and the VIF values were close to 1 in general, with no individual value higher than 2, indicating that there is no collinearity problem. The results of the multiple regression analysis per dependent variable and the next year's variable are summarised in the following tables, highlighting the significance of variables and the signs of the independent variables, with the negative sign shown in red.

Table 7-9 Return on Assets and Next Year's Return on Assets

RoA
2012. Predictors: (Constant), +CI, -MLI, IND, DIRSHA, BLOCK, QAS, CCI**, CONSHA
2013. Predictors: (Constant), +CI, +MLI, QAS**, DIRSHA, CCI**, IND, BLOCK, CONSHA
2014. Predictors: (Constant), -CI, +MLI, QAS*, BLOCK, DIRSHA, IND, CONSHA, CCI**
NYRoA
2012. Predictors: (Constant), +CI, -MLI, IND, DIRSHA, BLOCK, QAS, CCI**, CONSHA
2013. Predictors: (Constant), -CI, -MLI, QAS*, DIRSHA, CCI**, IND, BLOCK, CONSHA
2014. Predictors: (Constant), -CI, +MLI, QAS**, BLOCK, DIRSHA, IND, CONSHA, CCI**
**** significant at the 0.01 level; * significant at the 0.05 level.**

Table 7-9 shows a variability in the signs for both CI and MLI between the years as well as between the current and the following year's return on assets, but none of the relationships to the independent variables were significant. The overall lack of significance suggests a possible random nature, or an omitted variable as alternative explanations.

Table 7-10 Return on Equity and Next Year's Return on Equity

RoE
2012. Predictors: (Constant), -CI, +MLI, QAS, BLOCK, DIRSHA, IND, CONSHA, CCI
2013. Predictors: (Constant), -CI, -MLI, QAS*, DIRSHA, CCI, IND, BLOCK, CONSHA
2014. Predictors: (Constant), -CI, -MLI, QAS, CLOCK, DIRSHA, IND**, CONSHA, CCI**

Table 7-10 Return on Equity and Next Year's Return on Equity - continued

NYRoE
2012. Predictors: (Constant), +CI, +MLI, QAS, BLOCK, DIRSHA, IND, CONSHA, CCI
2013. Predictors: (Constant), -CI, -MLI, QAS, BLOCK, DIRSHA, IND**, CONSHA, CCI**
2014. Predictors: (Constant), -CI, +MLI, QAS*, BLOCK, DIRSHA, IND**, CONSHA, CCI**
**** significant at the 0.01 level; * significant at the 0.05 level.**

Table 7-10 shows a variability in the signs for MLI between the different periods as well as between the current and the following year's return on equity. Against the hypothesised positive relationship between CI and firm value, the signs for CI linked to RoE was negative for all the periods and negative in 2013 and 2014 linked to NYRoE. However, the overall lack of significance suggests a possible random nature, or missing variables as alternative explanations.

Table 7-11 Enterprise value per share and the following year's enterprise value per share

EV
2012. Predictors: (Constant), -CI, +MLI**, QAS**, BLOCK, DIRSHA, IND, CONSHA, CCI
2013. Predictors: (Constant), -CI, +MLI, QAS, BLOCK, DIRSHA, IND*, CONSHA, CCI
2014. Predictors: (Constant), -CI, +MLI, QAS**, BLOCK, DIRSHA, IND**, CONSHA, CCI*
NYEV
2012. Predictors: (Constant), -CI, +MLI, QAS, BLOCK, DIRSHA, IND, CONSHA, CCI
2013. Predictors: (Constant), -CI, +MLI**, QAS*, BLOCK, DIRSHA, IND**, CONSHA, CCI
2014. Predictors: (Constant), -CI, +MLI*, QAS*, BLOCK, DIRSHA, IND**, CONSHA, CCI**
**** significant at the 0.01 level; * significant at the 0.05 level.**

Table 7-11 shows consistent signs for both independent variables for EV and NYEV. CI is, however, negative against the hypothesised sign, suggesting that the cost of controls could exceed their benefit, however none of the CI coefficients were significant. MLI was positive for all periods and highly significant in 2012 for EV and in 2013 for NYEV and significant for NYEV in 2014. As EV is a more strongly market related dependent variable the consistent signs could be an indication that the smaller market size reacts with less volatility to changes in controls in the absence of other poor performance signals. However, the negative signs for CI

could indicate that controls have peaked in terms of reducing slack or wastage and cannot further reduce agency cost, while the more positive view on MLI, or the directional controls, could indicate that they are valued by the market.

The risk of a missing variable still exists although multicollinearity is not a problem despite the large standard error estimates (Wooldridge, 2014:113). A review of the Tolerance and VIF results showed no very low Tolerance values, which were all above 0.10, and the VIF values were close to 1 in general with no individual value higher than 2 (as summarised in Appendix 7).

Table 7-12 Tobin's Q and Next year's Tobin's Q

Q
2012. Predictors: (Constant), -CI, -MLI, QAS, BLOCK, DIRSHA, IND**, CONSHA, CCI**
2013. Predictors: (Constant), -CI, -MLI, QAS*, BLOCK, DIRSHA, IND**, CONSHA, CCI**
2014. Predictors: (Constant), -CI, +MLI, QAS**, BLOCK, DIRSHA, IND**, CONSHA, CCI**
NYQ
2012. Predictors: (Constant), -CI, +MLI, QAS, BLOCK, DIRSHA, IND**, CONSHA, CCI*
2013. Predictors: (Constant), -CI, -MLI, QAS, BLOCK, DIRSHA, IND**, CONSHA, CCI**
2014. Predictors: (Constant), -CI, +MLI, QAS, BLOCK, DIRSHA, IND**, CONSHA, CCI*
**** significant at the 0.01 level; * significant at the 0.05 level.**

Table 7-12 shows consistent negative signs for CI for Q and NYQ, against the positive hypothesised relationship suggesting that the cost of controls could exceed the benefit or that the utility gained from the board as a control mechanism is less than the cost of the control. However, none of the CI coefficients were significant. The relationship between MLI showed a greater variability over the different periods and with a negative sign for 2013 for Q and NYQ and a positive sign for 2014 for Q and NYQ.

The overall variability of the independent variable signs and their significance are summarised for the different dependent considering the normal and negatively lagged dependent variables in Table 7-13.

Table 7-13 Independent variable signs and significance		
Dependent variable	**CI**	**MLI**
RoA	+ + -	- + +
NYRoA	+ - -	- - +
RoE	- - -	+ - -
NYRoE	+ - -	+ - +
EV	- - -	+ + +
NYEV	- - -	+ + +
Q	- - -	- - +
NYQ	- - -	+ - +
significant at the 0.01 or 0.05 level.		

The overall results are comparable to the results of the correlation analysis where the only independent variable with a significant relationship to a firm value proxy was between MLI and EV. The changed in significance between the normal dependent variable and the negatively lagged dependent variable suggest that the inefficient nature of board-level controls results in relationships to firm value that are longer than a financial year. Although none of the CI results showed significance suggesting that the relationship could be random or close to zero, the majority of the signs are negative suggesting that the costs of CI controls exceed any possible utility gained from the controls. This might not be unreasonable as the emphasis on board level controls already started with King I in 1994 and the goal aligning value of the control could have levelled out by now. The low level of significance could also be because board-level controls are dwarfed by the other governance mechanisms that influence firm value. Given that the average number of board meetings per year is six meetings it is possible that the board will only adjust board-level controls after their review of the performance of the company at board meetings and possibly only as a response to persistent problems. It could also be that there are possible missing variables, or a more random effect given the variability of the independent variables between the different periods.

As the correlation analysis and the cross-sectional multiple regression analysis focused on the cross-sectional part of the panel data, enhanced insight over the relationship between the dependent variables and the independent variables can

be obtained by also considering the time series nature by using panel analysis. Using a different method of analysis, namely starting with pooled data, could help to improve the analysis and the information generated by the analysis and thereby improve understanding of the relationship between CI and MLI and firm value. As the negative lag (the following year's dependent variable) was an overall improvement for the model as a whole for the proxies for firm value, the further analysis will also use the negatively lagged dependent variables (t+1). This resulted in an amendment to the planned multiple regression model to include a negative lag in the dependent variable. The addition of a negatively lagged (NY= next year's dependent variable) did not reduce the time periods of the study as the additional variables were extracted from INET BFA.

$$\text{Firm value}_{i(t+1)} \text{ or Firm value}_{it} = \beta_0 + \beta_1 BLOCK_{it} + \beta_2 CONSHA_{it} + \beta_3 DIRSHA_{it} + \beta_4 QAS_{it} + \beta_5 IND_{it} + \beta_6 CCI_{it} + \beta_7 CI_{it} + \beta_8 MLI_{it} + \varepsilon_{it}$$

One of the disadvantages of examining relationships at a point in time is the fact that changes over time are not considered. A key risk is that there may be an unobserved variable whose changes over time influence the results of a cross-sectional analysis, resulting in an unobserved heterogeneity. These shortcomings are considered in the next section.

7.4 Hypotheses testing

In the previous section correlation and regression tests were used as statistical tools for descriptive purposes. Arellano (2003:7) says that a "regression model is an essential statistical tool", valuable for descriptive purposes as well as hypotheses testing. However, before the analysis can focus on the hypotheses it is important to first consider the reasoning behind the model development.

7.4.1 Model development

Irrespective of the legal and regulatory environments, the choices influencing the firm are under the control of the principals (shareholders) and their agents (board) associated with the firm. The SRI index represents large companies with dispersed ownership which is supported by the size of the market capitalisation of companies on the SRI index that was 81.97% of the JSE all share index in 2012, and 81.73% in 2013 (section 6.6). The limited number of controlling shareholders (Table 7-1), and small directors' shareholding as noted in Table 7.5 support the use of an agency theory perspective as there are separation of duties between the shareholders and the board. As panel data was collected the assessment should consider the cross-sectional as well as the time series nature of the data in the model. Four proxies are used for firm value (discussed in section 1.8.3), RoA and RoE are accounting related measures while EV and Q are more market related measures.

This study contributes to the body of knowledge on the board as a governance mechanism by positioning the controlling role of the board (CI) in the corporate control construct and the directing role (MLI) in the managerial labour construct. The corporate control and managerial labour constructs are complementary and collectively encapsulate the board as a governance mechanism. To measure the controlling and directing role of the board in the two constructs, this study extended the practice of indexes building in the broader corporate governance field to board-level control indexes by developing the CI and MLI indexes, as independent variables.

In the development of a multiple regression model it is important to include variables (referred to as control variables) that could also influence the dependent variable (firm value) to enable the study to identify the relationship between the independent variables (CI and MLI) and firm value, while controlling for the six control variables (BLOCK, CONSHA, DIRSHA, QAS, IND and CCI), resulting in the development of model 1:

$$\text{Model 1: Firm value}_{it} = \beta_0 + \beta_1 BLOCK_{it} + \beta_2 CONSHA_{it} + \beta_3 DIRSHA_{it} + \beta_4 QAS_{it} + \beta_5 IND_{it} + \beta_6 CCI_{it} + \beta_7 CI_{it} + \beta_8 MLI_{it} + \varepsilon_{it}$$

Prior research (discussed in section 4.3.1) suggests that a possible time difference of up to two years can exist before board-level control action would be triggered, suggesting that board-level controls operate differently from normal internal controls (such as the authorisation of a payment) where the result of the control can be observed or audited immediately. The time lag in board-level controls due to the limited meetings (6 meetings on average a year) of the board could make the control less efficient. As the board is the highest level of control the directors could give other interventions more time to take effect and only respond once evidence of maintained poor performance exist. The expected time difference resulted in the use of a negatively lagged dependent variable. Model 1 was adapted to accommodate a negative lag (t+1) option, resulting in the following redefined model.

Model 2: Firm value_{it} or $\text{Firm value}_{i(t+1)} = \beta_0 + \beta_1 BLOCK_{it} + \beta_2 CONSHA_{it} + \beta_3 DIRSHA_{it} + \beta_4 QAS_{it} + \beta_5 IND_{it} + \beta_6 CCI_{it} + \beta_7 CI_{it} + \beta_8 MLI_{it} + \varepsilon_{it}$

Prior research cautions that an omitted variable may result in spurious or misleading results when normal ordinary least squares (OLS) cross-sectional regression analysis is used (Beiner *et al.*, 2006:252; Ntim, 2009:144). Although the focus of the cross-sectional analysis (summarised in section 7.3.3 and Appendix 7) was to better understand the relationship between the variables at different points in time and to assess the multicollinearity between the variables, the overall lack of significance suggests a possible random nature, or the existence of missing variables. In order for this study to analyse the data for hypotheses testing the cross-sectional and time series nature of the panel data needs to be taken into consideration. The next step is to use pooled OLS data in an OLS estimation.

7.4.2 Pooled OLS estimation

The study pooled the data from the different periods together to enable an analysis over time as well as across subjects (cross-sectional). The assumptions of pooled data are that the observations are independently distributed across time, that

the relationship between the dependent variable and the independent variables remains constant over time and that there is no unobserved time invariant variable (Wooldridge, 2014:360-361). In essence Pooled OLS estimation assume that the "regression coefficients are the same" for all subjects over time and the error term is "independently and identically distributed with a zero mean and constant variance" (Gujarati & Porter, 2009:594). Given the variability of the cross-sectional data across the different time periods (discussed in section 7.2 and 7.3), the observations are unlikely to be in line with the above assumption, but the relationship between the dependent and independent variables over time has not yet been tested. Histograms of the residuals for the Pooled OLS analysis are summarised in Appendix 11.

Testing of Model 2 using a pooled OLS estimation was performed using EViews. The pooled data consist of 84 cross-sections over three years, resulting in 252 observations. The pooled data was stacked linking each cross-section to its different time periods. The hypothesised directional relationship between CI and MLI is positive in relation to firm value. The further analysis is performed using Model 2. The coefficients for the various variables are summarised in Table 7-14. The significant variables (p ranging between < 0.1 to < 0.01) are highlighted in pink and the level of significance is indicated only for the independent variables.

The F statistic values in Table 7-14 are significant excluding for RoE, which highlight that the model for RoE is not significant as a whole. Pooled data can, however, increase the risk of heterogeneity as the "individuality of each subject is subsumed in the disturbance term" (error term), increasing the risk of a correlation between the error term and some regressors resulting in "biased and inconsistent results" (Gujarati & Porter, 2009:594). A low predictability for RoE was highlighted by Tshipa (2017:153-154) who excluded RoE as a dependent variable due to its low level of explanation in the model. In line with Tshipa this study excludes RoE and NYRoE from further analysis.

Table 7-14 Pooled OLS estimation

	RoA	NYRoA	RoE	NYRoE	EV	NYEV	Q	NYQ
Constant	2.141	10.399	-9.3918	-2.6019	-381.58	-391.6	0.88941	0.75341
CI	0.0236	0.020	-0.0574	0.0011	-0.3177	-0.604	-0.0074	-0.004
MLI	0.00089	-0.099	0.26957	0.17837	**4.3378***	**4.877***	0.001441	0.00314
BLOCK	0.06316	-0.023	0.15978	-0.0093	-2.117	-2.431	0.012583	0.007094
CONSHA	0.42066	-1.624	8.83356	4.0148	47.3225	35.51	0.153927	0.063964
DIRSHA	-0.1438	-0.131	-0.067	-0.1772	-3.2817	-3.547	-0.0086	-0.0055
QAS	-0.1207	-0.152	-0.0975	-0.2777	2.99568	2.8522	-0.0115	-0.012
IND	4.0147	5.8794	3.66458	11.565	127.38	159.86	0.7970	0.94650
CCI	0.19	0.190	0.09239	0.2198	2.70357	2.8523	0.01861	0.01565
R^2	0.18007	0.2468	0.0129	0.07118	0.25296	0.2535	0.2587	0.27008
Adjusted R^2	0.1531	0.2221	-0.0196	0.0406	0.22836	0.2289	0.2343	0.24605
F-statistic	6.6708	9.9553	0.39756	2.3277	10.2854	10.316	10.600	11.2389
Prop (F)[106]	0.0000	0.0000	0.92128	0.02005	0.0000	0.0000	0.0000	0.0000
Durbin-Watson	0.7928	0.8548	1.8927	1.3268	0.1617	0.19927	0.1774	0.2367

*** = significant at the 0.01 level.**

The only independent variable with any significance is MLI that shows a positive and highly significant relationship to EV and NYEV, however the size of the coefficient seems large for a board-related variable although the signs for MLI and EV and NYEV are consistent with the results in Table 7-13. The variability of the signs of the independent variables across the different dependent variables could indicate a more random nature or an omitted variable suggesting Random Effects estimation is an option.

It is also important to use additional asymptotic analysis to test multiple exclusion restrictions (Wooldridge, 2014:145) in order to ensure that the most appropriate estimation methods are used. The Lagrange Multiplier (LM) test form the basis for asymptotic analysis. The LM test "analyses how well the lagged residuals explain the residuals" in the current period using all the predictor variables

[106] Probability of 0.0000 indicates that the probability is smaller than 0.0000.

for testing serial correlation (Studenmund, 2011:413-414). In essence LM tests whether the error term is uncorrelated to the predictor variables (Wooldridge, 2014:146). This is an important consideration as heteroskedasticity can stem from a "neglected parameter heterogeneity" (Zietz, 2001:263).

The Breusch-Pagan variation of the LM test for heteroscedasticity and random coefficient variation have been used to assess the pool to ensure an appropriate analysis method is used by assessing whether there are random effects to consider the suitability of a Random Effects estimation and by considering the appropriateness of cross-section and time series analysis (Breusch & Pagan, 1979; Gujarati & Porter, 2009:385). The results of various LM tests are given in Appendix 9, however, this study used the Breusch-Pagan results as summarised in Table 7-15.

Table 7-15 Breusch-Pagan test

Dependent variable	Cross-section	Time series	Both
RoA	104.0848***	1.304384	105.3892***
EV	204.4130***	1.429245	205.8423***
Q	199.6994***	1.231315	200.9307***
NYRoA	48.03004***	0.169543	48.19958***
NYEV	195.0660***	1.450921	196.5169***
NYQ	184.8329***	1.043714	185.8766***
***** Significant at the 0.01 level; ** Significant at the 0.05 level; * Significant at the 0.1 level**			

The cross-sectional tests are highly significant for all the dependent variables while none of the time series was significant, suggesting a one-way analysis focusing on the cross-section. In situations where time series is not significant, but the cross-section is, a one-way method is recommended.

7.4.3 Panel data estimation

Panel data have advantages as a having both cross-sections and time series data increases the sample size and can help to control for unobserved characteristics to reduce the omitted variable risk Panel estimations focuses on testing Model 2

using panel data starting with Random Effects.[107] The analysis is performed with the aid of EViews. Before estimation the panel was sorted "starting with the first cross-section for all time periods, followed by the second cross-section for all time periods, and so on" (Studenmund, 2011:527), to use a stacked panel in the analysis. The panel data consist of 84 cross-sections over three years, resulting in 252 observations. The hypothesised directional relationship between CI and MLI is positive in relation to firm value, as the relationship between the board as a governance mechanism and firm value is expected to be positive. Table 7-16 summarises the Random Effects tests for all the proxies for firm value for Model 2[108].

The Random Effects estimation was performed using feasible general least squares (FGLS) with cross-section set to random. Generalized least squares enable the estimation to control for heteroscedasticity. The Random Effects estimation used the Wansbeek-Kapteyn option as an estimator of component variances, given the limited time span of three years, for unbiased estimators. The Hausman test was run after the Random Effects estimation to indicate whether Fixed or Random Effects would be the best option.

The Hausman test measures "whether the regression coefficients under the fixed effects and random effects models are statistically different from each other". If there are no differences the Random Effects model is preferred to "conserve degrees of freedom", with the Fixed Effects model preferred if the result show differences despite the loss of degrees of freedom (Studenmund, 2011:536). For RoA, NYRoA, EV and NYEV the Hausman test indicates that Fixed Effects estimation would be a better assessment, for Q and NYQ Random Effects is the suggested preferred method.

[107] Random Effects are "based on the assumption that the intercept of each cross-sectional unit is drawn from a distribution that is centred around a mean intercept" (Studenmund, 2011:535).
[108] The results of the Random Effects estimation are summarised for independent variables in Table 7-22 under Test 1 for ease of comparison.

Table 7-16 Random Effects cross-sectional (Test 1)[109]

	RoA	NYRoA	EV	NYEV	Q	NYQ
Constant	-5.6939	12.3379*	-38.553	9.131	0.9414**	0.9657*
CI	**0.13304****	0.036973	**1.1884****	**1.2679***	9.61E-05	0.00025
MLI	**0.13916****	**-0.1421****	0.1894	0.196	-0.001	-0.0005
BLOCK	0.03433	-0.0182	-0.1218	-0.07696	0.0085*	-0.0033
CONSHA	-0.13115	-2.95458	26.837	33.133	-0.025	-0.2168
DIRSHA	-0.12466	-0.10338	-1.051	-1.0788	-0.0076	-0.0014
QAS	-0.1059***	-0.0932**	0.3938	-0.37098	-0.004*	-0.0022
IND	5.24197**	6.3363***	116.103**	147.08**	0.9137***	1.0609***
CCI	0.01979	0.1269***	1.304***	0.8995**	0.0057**	0.0054*
Cross-section random Rho	0.7381	0.5135	0.9648	0.9602	0.9275	0.9044
Idiosyncratic random Rho	0.2619	0.4865	0.0352	0.0398	0.0725	0.0956
Hausman test p[110]	0.009**FE**	0.0471**FE**	0.0198**FE**	0.0073**FE**	0.3891**RE**	0.3638**RE**
Weighted R^2	0.07763	0.121729	0.1029	0.06261	0.0949	0.0863
Weighted adjusted R^2	0.04726	0.092815	0.0734	0.03175	0.06506	0.0562
Weighted F-statistic	2.556360	4.209996	3.4837	2.0288	3.1833	2.8693
Weighted prop (F)	0.01***	0.0001***	0.0008***	0.0438**	0.0019***	0.0046***

*** = significant at 0.10 level; ** = significant at 0.05 level; *** = significant at 0.01 level**

FE = Fixed Effects; RE = Random Effects

The cross-sectional Rho results show a large improvement with Random Effects panel analysis explaining more of the model for all the dependent variables. As hypothesised the CI shows a positive sign for all the dependent variables suggesting that the improved controls represented by CI is seen as valuable when the cross-sectional and time series nature of the data is considered. The positive relationship with CI suggest that the board's controlling role still contributes to the improvement of firm value by reducing agency cost through controlling wastage and slacking. In addition, CI is statistically significant for RoA, EV and NYEV. It

[109] The random effects are calculated using panel analysis and FGLS estimation with cross-sections weights and idiosyncratic random effects.

[110] A significant probability in the Hausman's test indicates that Fixed Effects (FE) estimation is the preferred method, otherwise it is Random Effects (RE).

is also possible that CI is a more efficient control with less of a negative lagged effect given the change in significance between RoA to NYRoA and EV to NYEV. An efficient control would mean that the impact of the control is close to immediate like normal internal controls. The changed sign and improved significance highlight the value of panel analysis over cross-sectional analysis.

MLI is as hypothesised positive for RoA, at a statistically significant level, however, the influence of time seems to suggest that the positive influence is short lived as the sign change to negative for NYRoA also at a significant level. The changed sign is an indication of a time horizon problem. RoA is an accounting-based measure that can be more readily influenced by executive management and is a regularly reported ratio. The positive relation to RoA could indicate short-term manipulation to maximise utility to the detriment of a longer term view as indicated by the negative relationship to NYRoA. Although MLI is not significantly related to any of the other dependent variables the sign is positive for EV and NYEV but negative for Q and NYQ. However, the negative coefficient values for Q and NYQ are very small. The changed sign of MLI could suggest a time horizon problem in the directional controls over the board's labour. It is possible that board members maximise their short-term utility in line with the time horizon problem that help to cause goal divergence in an agency relationship (refer to section 3.3.4 for a more comprehensive discussion on the causes of goal divergence). It is also possible that the low coefficients for MLI for the market related proxies for firm value (Q and EV) could be an indication that the increased bonding of the 2008 Companies Act placed more responsibility for the directional role of the board's labour on shareholders, reducing their need to rely on board-level direction.

As the Hausman's test indicated that Random effects is the preferred method for Q and NYQ the one-way Random Effects was run again (summarised in table 7-16) retaining the Wansbeek-Kapteyn option as estimator of component variances and adding the White period[111] for robust standard errors and corrected degrees of

[111] Using the White period as the coefficient covariance method enable EViews to compute standard errors that are robust for serial correlation. The White period method assumes that the errors for a cross-section are heteroskedastic and serially correlated (cross-section clustered).

freedom, the results are summarised in section 7.4.3.1. In line with the Hausman test the further Fixed Effects estimations (Test 2) are discussed in section 7.4.3.2.

7.4.3.1 Random Effects estimation for Tobin's Q

The random effects are calculated using panel analysis and FGLS estimation with cross-sectional weights and idiosyncratic random effects as done in Test 1 and the coefficient covariances were calculated using a White period estimator. Overall using White period did not improve the results (summarised in Table 7-17) over the Test 1 results (summarised in Table 7-16).

Table 7-17 Q and NYQ additional Random effects

Dependent variable	Q	NYQ
Constant	0.941385***	0.965638**
CI	9.61E-05	0.000246
MLI	-0.000988	-0.000463
BLOCK	0.008473	-0.003312
CONSHA	-0.025226	-0.216751
DIRSHA	-0.007635	-0.001380
QAS	-0.004132**	-0.002225
IND	0.913645***	1.060851***
CCI	0.005686**	0.005402***
Cross-section random Rho	0.9275	0.9044
Idiosyncratic random Rho	0.0725	0.0956
Weighted R^2	0.094860	0.086310
Weighted adjusted R^2	0.065061	0.056230
Weighted F-statistic	3.183342	2.869313
Weighted prop (F)	0.001878***	0.004555***

*** = significant at 0.10 level; ** = significant at 0.05 level; *** = significant at 0.01 level**

The assumption for Random Effects is that a sample was drawn from a population large enough to enable the intercept to have a common mean value in contrast to the assumed individual intercepts assumed for Fixed Effect estimation. As this study uses a near population size sample the assumption behind Random

Effects are unlikely and thus Q and NYQ will be included in the Fixed Effects estimations.

The Hausman's test indicated that Fixed Effects estimations would be the preferred method for RoA, NYRoA, EV and NYEV performed in the next section. One of the motivations for using Fixed Effects is to "control for unobserved time-invariant heterogeneity in a cross-sectional model" (Arellano, 2003:7). Such an expected time-invariant effect is talent. The talent of a director is expected to remain constant over time and is not readily observable. Section 7.4.3.2 summarised a one-way Fixed Effects estimation.

7.4.3.2 One-way Fixed Effects estimation

As time-invariant variables have to be excluded from a Fixed Effects estimation IND has been excluded in the one-way Fixed Effects estimation. The same stacked balanced panel used for the Random Effects estimation was used for the Fixed Effects estimation using the panel analysis option in Eviews. Table 7-18 shows the Fixed Effects estimation results for the various dependent variables. Test 2 used a one-way Fixed Effects least square (LS) estimation and only held the cross-sectional effects fixed.

Table 7-18 One-way Fixed Effects Estimation (Test 2)

	RoA	NYRoA	EV	NYEV	Q	NYQ
Constant	-3.01776	21.59*	45.889	111.45	1.4501***	1.603***
CI	**0.16605****	0.011	**1.2615****	**1.3626***	0.0005	0.0005
MLI	**0.17572*****	**-0.232*****	-0.005	-0.0749	-0.0018	-0.0014
BLOCK	0.022663	0.0485	0.0664	0.2478	0.0085	-0.0063
CONSHA	1.185390	0.24398	-0.0209	23.761	0.1064	-0.2097
DIRSHA	-0.136795	-0.0705	-0.219	-0.213	-0.0107	0.002
QAS	-0.08715*	0.0209	0.2	-0.631	-0.0029	-7.56E-05
CCI	-0.09123*	-0.015	1.207***	0.725	0.0035	0.0032
R^2	0.8447	0.7452	0.9785	0.9747	0.9575	0.9428
Adjusted R^2	0.75788	0.6028	0.9666	0.9605	0.9338	0.9108
F-statistic	9.72975	5.2316	81.575	68.822	40.326	29.489
Prop (F)	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***

*** = significant at 0.10 level; ** = significant at 0.05 level; *** = significant at 0.01 level**

The Fixed Effects estimation method resulted in a dramatically improved estimation for Model 2 (Test 2) that is overall highly significant for all dependent variables. However, the focus of this study is on the independent variables and their relationship to the dependent variables. Where the independent variable coefficients were significant the results were highlighted using bold in the above table.

Controlling for Fixed Effects also improved the level of significance for CI. CI is, as hypothesised, positively associated with all dependent variables retaining the signs obtained in the Random Effects estimation. Positive coefficients for CI indicates that board-level controls continue be beneficial as the benefit or utility of the controls seems to reduce goal divergence problems as indicated by the positive relation with the dependent variables. The relationship between CI is positive and moderately significant with NYEV and significant with RoA, and EV. The coefficients of CI to the other dependent variables are very small suggesting a possible lack of a relationship. The reduced coefficient size between RoA and NYRoA suggest that CI could be an efficient control similar to normal internal controls with a more immediate effect. The significant coefficient for EV that is larger and moderately significant for NYEV, suggest that the market places a higher value on CI over a longer period. This could be because diverse shareholders need to rely on the controlling role of boards as an alternative to shareholder monitoring.

The relationship between MLI and the different proxies for firm value is mostly negative, against the hypothesised sign, suggesting that the directional control of the board is seen as costly. The changed sign and significance between Test 1 and Test 2 for MLI, EV and NYEV suggest that a time invariant omitted variable for example talent could have influenced the previous estimations. MLI is highly significant and positive to RoA but the sign change to a slightly larger coefficient that is also highly significant but negatively correlated to NYRoA. The increased value of the negative coefficients for MLI between RoA and NYRoA as well as EV and NYEV suggests that the directional role of the board is seen as costly over time. The costly aspect could be attributed to the maximisation of short-

term utility by the board linked to a possible time horizon problem, especially given the change in sign between RoA and NYRoA. An area of future study is to assess the relationship between the MLI index and accrual quality or agency costs to consider possible time horizon problems. Given the criticism especially against executive directors' remuneration in the news media (discussed in section 3.3.1) it is possible that the board's control and direction of the labour of the directors are not as effective and efficient as it can be. Although the MLI is an index considering the increased average remuneration of the non-executive and executive directors that are part of the index (Table 7-19) could help explain the negative sign.

Table 7-19 shows an above inflation increase for non-executive directors (2013 = 10.54%; 2014 = 7.69%) and a very high increase (19.38%) for executive directors in 2013, that was more than three times the rate of inflation for the same year. The executive directors increase did taper down to a below inflation increase (3.88%) 2014.

Table 7-19 Board remuneration

	Average board size	Mean non-exec salary	% increase on previous year	Mean exec total salary	% increase on previous year	Inflation rate (Table 2-5)
2012	13	826238.53	-	11829263	-	5.7%
2013	12	913348.38	10.54	14121357	19.38	5.8%
2014	12	983597.91	7.69	14669190	3.88	6.1%

The negative signs for MLI could be attributed to the enhanced Companies Act responsibilities placed on shareholders to approve directors' remuneration, resulting in the marker viewing the directional control of the board as less important, as directors' remuneration fall under the monitoring responsibility of the shareholders. An area of future study is to reposition the CI and MLI indexes of the board separating the indexes using the non-executive and executive director roles to identify the relationship between the different roles and firm value.

Using a standard one-way Fixed Effects model allocate equal weighting to the different subjects but the boards of the SRI companies do vary, and such an equal allocation does not reflect the reality. Thus, it is necessary to control for the differences between subjects as discussed in section 7.4.3.3.

7.4.3.3 Fixed Effects estimation with weights

To control for the differences in subjects the same Fixed Effects estimation that held the cross-section fixed used in Test 2 is extended to a feasible general least squares (FGLS) analysis. In order to adjust for differences in subjects, the study uses FGLS (with the cross-section fixed) with weights added to the cross-section; in addition. the White period test was used to add robust standard errors and corrected degrees of freedom for Test 3.

The results of the more robust Test 3 analysis are summarised in Table 7-20.

Table 7-20 One-way Fixed Effects Estimation with weights (Test 3)

	RoA	NYRoA	EV	NYEV	Q	NYQ
Constant	-1.420831	20.522***	95.318***	141.6***	1.3884***	1.5647***
CI	**0.16184*** **	-0.027	**0.6416*** **	**1.0576*** **	0.0004	0.0002
MLI	**0.13826*** **	**-0.156*** **	0.1017	0.0023	**-0.0018** **	**-0.0012** **
BLOCK	-0.007134	-0.0005	0.0806	-0.0126	0.0065***	-0.0035*
CONSHA	0.510763	-0.618**	2.0413	19.944***	0.0632**	-0.1479***
DIRSHA	-0.005373	-0.0708	0.1299	0.12	-0.01***	0.0034
QAS	-0.0592***	0.012	0.0928	-0.672***	-0.0009	0.0003
CCI	-0.0904***	-0.011	0.879***	0.5329***	0.0038***	0.0021**
R^2	0.9883	0.986	0.9915	0.9948	0.9981	0.9909
Adjusted R^2	0.98179	0.9784	0.9867	0.9919	0.997	0.9858
F-statistic	151.386	127.2037	207.747	343.81	939.45	194.97
Prop (F)	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***
*** = significant at 0.10 level; ** = significant at 0.05 level; *** = significant at 0.01 level**						

The FGLS Fixed Effects estimation with cross-sectional weighting and the White period test method resulted in a further improved highly statistically

significant estimations for all dependent variables. The F-statistic values are also much higher for all dependent variables.

CI is mostly positively associated to the firm value proxies except for NYRoA, where the relationship changed to a negative sign, suggesting that the controlling role of the board can also be short-term focused. However, the coefficient is small, and the relationship is not statistically significant. The positive association between CI and RoA is highly significant and the high levels of significance is retained for EV and NYEV. The coefficient increase between EV to NYEV suggests that the market value the controls by the board as an alternative to shareholder monitoring. Although controls could be costly given the slight negative sign with NYRoA, shareholders seem to value strong board-level controls as suggested by the relationship to EV and NYEV. Given the increased coefficient of CI between EV and NYEV it could indicate that the market value board-level controls given the expectation that strong controls will continue to reduce moral hazard and reduce information asymmetry due to board-level monitoring as an alternative to shareholder monitoring.

The relationship between RoA and NYRoA and MLI did not change between the Test 2 and 3 as MLI maintained a positive and highly significant association to RoA and a negative and highly significant relation to NYRoA. The changed signs of CI linked to NYRoA, and MLI linked to EV and NYEV could indicate a more random relationship as the coefficients are small and not significant. It can also indicate that directors manage to maximise RoA in a given year ignoring the possible future negative consequences for both CI and MLI. Although regulations recommend the use of a variety of strategies including delayed compensation, an area of future research could consider whether applying the governance recommendations were successful in reducing time horizon problems or curtail rent extraction and improve sustainability.

The more robust model resulted in a change back to a positive sign for MLI, EV and NYEV, however, the relationship is not statistically significant. It is

possible that EV and NYEV as market-related measures do not consider MLI as a valuable control as directors' remuneration are disclosed in detail in the integrated report and can be discussed at the AGM. In addition, given the requirements of the Companies Act shareholders have an additional oversight responsibility over directors' remuneration and might not need to rely as strongly on the directional control of the board. MLI has a significant but very small negative relationship to Q and NYQ given the more robust Test 3. MLI's relationship with Q and NYQ retained its size and signs but changed to a significant relationship. Again, the small negative coefficient could indicate that the market does not rely on the directional controls of the board and could view them as slightly expensive. The lack of reliance on the board's directional controls could be attributed to the increased bonding of the 2008 Companies Act who placed additional responsibilities on shareholders to direct the board's labour. Any focus on maximising short-term benefits by people in an agency relationship would become visible over the longer term as goal divergence increase the associated agency cost and reduce firm value. The next section summarised the results of the different tests and align the results to the study's objectives and hypothesis.

7.4.4 Summary of the hypotheses testing

The development of the indexes and the assessment of the results enable this study to achieve the research objectives and conclude on the hypotheses. The development of CI and MLI indexes led to the achievement of the two sub-objectives (SO 1 and SO 2).

> **SO 1 – to develop a CI index to measure the level of corporate control of the board**
>
> **SO 2 – to develop a MLI index to measure the level of managerial labour of the board.**

The construction of the unique CI and MLI indexes extended corporate governance index building practices to board-level control to enable the measurement of the controlling (CI) and directional (MLI) role of the board in the corporate control and managerial labour constructs. Quantifying the controlling and

directional role of the board was difficult given the scarcity and quality of relevant data, however, it enabled this study to contribute to the body of knowledge on board-level controls. The results of the index construction are summarised for each year using the mean and median scores as summarised in Table 7-21.

Table 7-21 CI and MLI descriptive statistics

	CI 2012	CI 2013	CI 2014	MLI 2012	MLI 2013	MLI 2014
Mean	58.86%	59.29%	61.33%	63.4%	64.88%	66.45%
Median	60.0%	60.0%	60.0%	65.0%	65.0%	65.0%

The means of both indexes show small improvements over time which is consistent with prior findings on South African corporate governance research showing increased levels of compliance to governance recommendation over time (Ackers, 2009:14; Ntim, 2009:343; Mans-Kemp, 2014:197). However, the medians remained constant, highlighting the need to balance the utility against the cost of controls (also referred to as a cost benefit analysis), and the possibility that the controls could have reached a plateau in their ability to improve goal alignment. Measuring board-level controls enable the study to assess the relationship of CI and MLI with firm value in line with the sub- and main hypotheses.

SH 1 – there is a positive relationship between the CI index used to measure the board's level of corporate control and firm value.
SH 2 – there is a positive relationship between the MLI index used to measure the board's level of managerial labour and firm value.
H 1 – there is a positive relationship between the board as a governance mechanism (CI and MLI) and firm value.

The results of the Model 2 estimations using Tests 1, 2 and 3 are summarised in Table 7-22 for each dependent variable. Only the results of the independent variables are summarised as the focus of this study is on the relationship between CI and MLI (the independent variables) and firm value.

Table 7-22 Hypotheses tests summary

	Test	RoA	NYRoA	EV	NYEV	Q	NYQ
CI	Test 1 FGLS random cross-section	0.133**	0.037	1.188**	1.268*	9.61E-05	0.0003
MLI	Test 1 FGLS random cross-section	0.139**	-0.142**	0.189	0.196	-0.001	-0.0005
CI	Test 2 Panel LS fixed cross-section	0.1661**	0.011	1.262**	1.363*	0.0005	0.0005
MLI	Test 2 Panel LS fixed cross-section	0.176***	-0.232***	-0.005	-0.075	-0.002	-0.001
CI	Test 3 FGLS cross-section fixed, weighted &White period	0.1618***	-0.027	0.6410***	1.0576***	0.0004	0.0002
MLI	Test 3 FGLS cross-section fixed, weighted &White period	0.138***	-0.16***	0.1017	0.0023	-0.002**	-0.001**

*** = significant at 0.10 level; ** = significant at 0.05 level; *** = significant at 0.01 level**
Negative signs are shown in red

7.4.4.1 Corporate control results from the CI index

In considering SH 1, CI shows a positive relationship that is statistically significant for RoA, EV and NYEV across all the estimation methods (Tests 1-3) (SH 1). CI's relationship with Q and NYQ was also positive but it was not significant, and the coefficient values were very small. The relationship between CI and NYRoA was not significant and very small, however there was a change to a negative sign in the more robust Test 3. The very small coefficient size and lack of significance for CI could indicate a lack of a relationship with NYRoA, Q and NYQ.

7.4.4.2 Managerial labour results from the MLI index

In considering SH 2 MLI shows a positive relationship that is statistically significant for RoA across all the estimation methods. However, MLI shows a negative relationship that is statistically significant for NYRoA across all the estimation methods. The change in sign suggest a short-term focus on the directional controls used by the board in relation to RoA, that becomes detrimental in the medium term as indicated by the negative relation to NYRoA. Thus, MLI has a positive relationship with RoA but a negative relationship with NYRoA (SH 2).

The change in sign suggests a time horizon problem in the direction of the board's labour.

MLI's relationship with Q and NYQ are negative and very small, and only significant for the Test 3 estimation, suggesting that MLI has a negative relationship with Q and NYQ (SH 2). The stricter bonding of the 2008 Companies Act could make the directional control of the board less valuable to shareholders. MLI's relationship with EV and NYEV is positive for Test 1 and 3 but negative for Test 2. However, none of relationships were significant. The small coefficients for MLI coupled with a lack of significance could also be interpreted as a lack of a relationship with EV and NYEV.

7.4.4.3 The board as a governance mechanism

In considering H 1 the combined results of the relationship of the independent variables (CI and MLI) and firm value are considered. As both CI and MLI are positively related to RoA in a manner that is statistically significant across all estimation methods it is also possible to conclude that there is a positive relationship between the board as a governance mechanism (CI = positive and MLI = positive) and RoA as a proxy for firm value (H 1). As the relationship between CI and NYRoA is not significant the relationship between CI and NYRoA is not significantly different from zero. However, there is a negative relationship between MLI and NYRoA. Thus, there is a negative relationship between the board as a governance mechanism (with CI = 0 and MLI = negative) and NYRoA (H 1).

The association between CI and MLI with Q and NYQ show very small coefficients throughout all the estimations with MLI only significant in Test 3. As CI's relationship with Q and NYQ are not significant it is not significantly different from zero. MLI, however, has negative relationship with Q and NYQ that is significant in the final estimation. Thus, there is a negative relationship between the board as a governance mechanism (with CI = 0 and MLI = negative) and Q and NYQ (H 1).

CI has a significant positive relationship with EV and NYEV. As MLI has no statistically significant relationships with either EV or NYEV the relationship is not statistically different from zero. Thus, the relationship between the board as a governance mechanism (CI = positive and MLI = 0) and EV and NYEV, are positive (H 1).

The above results show mixed findings in the relationship between the board as a governance mechanism and the different proxies for firm value. The relationship between the board and RoA seems the strongest and significant for CI and MLI supporting the internal complementary nature of the controlling and directional role of the board. However, when compared to market related proxies for firm value the positive coefficients are retained between CI and MLI for EV and NYEV but only significant for CI also supporting the complementary nature of the independent variables. In contrast the direction between CI and MLI's coefficients is different for Q and NYQ, CI is positive and MLI is negative, with all the coefficients very small, and MLI only significant for the more robust Test 3.

A summary of the results of the H 1 discussion is included in Table 7-23. Concluding on H 1 enable this study to achieve its main research objective (RO) namely:

RO - to assess the relationship between the board as a governance mechanism (CI and MLI) and firm value.

The development of the CI and MLI indexes enabled this study to assess the relationship between the board as a governance mechanism and firm value, with mixed results depending on the firm value proxy used. There is a positive relationship between the board as a governance mechanism and RoA, EV and NYEV, but a negative relationship with NYRoA suggesting that different time horizons remains a goal alignment challenge. The board as a governance mechanism also has a negative relationship with Q and NYQ. However, the coefficients are very small and only MLI is significant suggesting the controlling role of the board does not influence Tobin's Q and that the directing role of the board's labour might have lost its initial utility giving the additional bonding of the

2008 Companies Act and achieved a plateau. The negative relationship between MLI and firm value proxies could also suggest the persistence of moral hazard as the board's direction of their labour seems costly.

The increased cost of directors' remuneration is supported by above inflation increases in their remuneration (summarised in Table 7-19). It is possible that the increased directors' remuneration is a response to the increased liability risk and the increased responsibility stemming from the 2008 Companies Act which could be attributed to normal supply and demand economic principles and not to agency problems. Deconstructing the root cause of the negative relationship between MLI and firm value is an area of future research. The H 1 results are summarised in Table 7-23 showing positive relationships to RoA, EV and NYEV and negative relationships to NYRoA, Q and NYQ.

Table 7-23 Relationships to firm value - H 1

There is a positive relationship between the board as a governance mechanism (CI = positive and MLI = positive) and RoA as a proxy for firm value.
There is a negative relationship between the board as a governance mechanism (with CI = 0 and MLI = negative) and NYRoA.
There is a positive relationship between the board as a governance mechanism (CI = positive and MLI = 0) and EV and NYEV.
There is a negative relationship between the board as a governance mechanism (with CI = 0 and MLI = negative) and Q and NYQ.

The lack of significance in some instances could also be because the magnitude of board-level controls is so small given the size and complexity of large listed companies that their relationship is dwarfed by other variables. In addition, the very small coefficients for Q and NYQ may be an indication that the initial move to improved governance controls started in 1994 by King I has matured to more established practices that maintain the existing controls to prevent the re-introduction of goal divergence practices such as rent extraction, slacking or the excessive use of perquisites.

7.5 Conclusion

This study differentiated from prior studies on the board as a governance mechanism by performing an in-depth study on the board as a governance mechanism by differentiating between the controlling role of the board in the corporate control construct and the directional role of the board in the managerial labour construct. The controlling and directional role of the board was measured using the CI index for the controlling role and the MLI index for the directional role.

To construct the indexes this study performed an in-depth analysis and consolidated board-level controls using 25 indicators for the CI index and 23 indicators for the MLI index. The CI and MLI indexes enabled the study to measure board-level controls in the two constructs showing slight improvements in the average control scores over time but a constant median for both the CI and MLI indexes.

This chapter started by describing the descriptive analysis of the data collected by the study to obtain a better understanding of the variability and central tendency of the underlying data. In addition to the normal descriptive statistics correlation analysis was used for the individual periods as well as the pool and a cross-sectional OLS multiple regression was used for descriptive purposes to consider the relationship between the independent and dependent variables on a year-to-year basis.

As a cross-sectional analysis do not consider the time series nature of the data a pooled OLS analysis was performed. However, given the variability of the data observed in the year-by-year analysis and the fact that the data represent 84 boards that are different the study used panel analysis with Random Effects and Fixed Effects estimations as the main analysis methods to test the hypotheses. The robustness of the estimations used improved as the analysis moved from a pool OLS analysis, using Breusch-Pagan test, to using panel analysis with FGLS Random

Effects estimation with Hausman test to consider the suitability of Random and Fixed Effects estimations. The last two estimations used Fixed Effects panel estimations initially with only the cross-section fixed and finally using a fixed cross-section with weights added to the cross-section and the White period test for robust standard errors. These estimations were summarised to enable the study to conclude on the hypotheses testing and research objectives and sub-objectives as discussed in section 7.4.4 and summarised in Table 7-23. The next chapter summarises and concludes on this study.

CHAPTER 8: CONCLUSION

8.1 Introduction

This chapter summarises the results of the econometric analysis performed in chapter 7. The results of the hypotheses tests are utilised to achieve the research objective of arriving at a conclusion on the study. In order to put the study into context, the summary positions the board as a governance mechanism in the South African context - highlighting both the controlling and the directional role of the board. This is followed by a discussion of the research findings on the level of control and direction exercised by the board. Board-level controls in the corporate control and managerial labour constructs are measured using the CI and MLI indexes to achieve SO 1 and SO 2. The discussion of the results includes a discussion of the results of the unique indexes constructed in this study, and of the model development and testing performed.

In addition to the CI and MLI indexes, the control variables included two indexes: one was consolidated quality assurance (QAS), which is under the control of the shareholders, and the other focused on longer term company-level controls (CCI). The panel analysis of the CI and MLI indexes, as independent variables was discussed in relation to firm value, taking the various panel methods used into account. The contribution of this study was summarised, and the practical implications of the research findings were clearly indicated. Lastly, the delimitations and limitations of this study were discussed and areas for future research highlighted.

Section 8.2 briefly recapitulates the controlling and directional role of the board as a governance mechanism. This is followed by section 8.3, which summarises the study's findings relative to the research objective and hypothesis, taking into account the results of Tests 1 to 3 of the panel estimations used. Section 8.4 summarises the contribution of this study, and section 8.5 describes the

delimitations and limitations of the study, followed by section 8.6, which highlights areas for future research. The study ends with a brief conclusion in section 8.7.

To recapitulate, the main research objective or RO of this study is:

RO - to assess the relationship between the board as a governance mechanism (CI and MLI) and firm value.

As the board as a governance mechanism is represented by corporate control (CI) and managerial labour controls (MLI), the main objective can be expressed as a hypothesis:

H 1 – There is a positive relationship between the board as a governance mechanism (CI and MLI) and firm value.

8.2 The board as a governance mechanism

This study focused on the relationship between the board as a governance mechanism and firm value. The study extended the body of literature by positioning the controlling and directional role of the board in the corporate control and managerial labour constructs. Focusing on board-level controls enabled this study to consider the knowledge gap on the board as a governance mechanism that stemmed from the introduction of more stringent regulatory requirements with the implementation of the 2008 Companies Act in 2012. Focusing on board-level controls also enabled this study to answer the following research question:

What is the relation between the controlling (CI) and directing (MLI) role of the board as a governance mechanism and firm value in a more regulated developmental environment?

The provisions of the Companies Act limit the control options of the board while increasing the liability risks of directors. The study differs from prior board-related studies in that it used an in-depth assessment of board-level controls in relation to firm value within the unique, more regulated developmental South African context.

Chapter 2 included a detailed discussion of the South African context which examined the First World elements such as a strong market, legal and governance elements in contrast to the Third World elements of an endemic corruption score, high unemployment, and transformational challenges given the high societal inequality on educational and economic levels. South Africa's governance regulatory practices have been developed to encourage competitive business practices using a more stakeholder-centric African world view.

Despite a stakeholder-centric view promoted by corporate governance guidelines, this study uses an agency theory perspective as a lens to assess the board as a governance mechanism in relation to firm value. The continued relevance of agency theory is centred in the continued goal divergence brought about by the separation of duties between the board and the shareholders. Stemming from the separation of duties between the board and shareholders, coupled with the regulatory and legal responsibility and accountability of the board to the shareholders, goal divergence challenges remain aspects that form part of the board/shareholder relationship. Because of the board's legal accountability to the shareholders, this study argues that the board will view shareholders as the primary stakeholders and manage the company to maximise firm value in view of the goal alignment principles of agency theory. The fiduciary duty of the board is to act in the best interests of the company, which also indicates a focus on maximising firm value. The continued maximisation of self-interest in South Africa as well as the endemic corruption index score indicate that moral hazard remains prevalent, which supports the use of goal alignment principles within an agency theory perspective.

The number of controlling shareholders over the period of the study varied little, reducing from 34.5% in 2012 to 33.3% in 2013 and 2014. The percentage shares held by the directors averaged at around 3.5% but the median was less than 0.5% over the period of the study. The low level of controlling shareholders and the low level of directors' shareholding indicate that separation of ownership from control remains a reality – a finding which supports the agency theory perspective

used in the study. As the agents of the shareholders, the board is the primary governance mechanism in the management of the agency problem.

Board-level controls are important as the board is an alternative to shareholder monitoring. Thus, board monitoring becomes complicated by the existence of dispersed shareholders, which is more common in large companies. The split between companies with no controlling shareholders and companies with a controlling shareholder (Table 7-2) reveals some differences between the use of controls in the different shareholding groups. This indicates that controlling shareholders can exercise additional monitoring and might not need to rely as much on board-level controls as measured in the CI and MLI indexes. Companies with no controlling shareholder have a lower average QAS score (No controlling shareholder = 46.71; Controlling shareholder = 57.65), but higher scores for CCI and MLI, with CCI (No controlling shareholder = 51.9; Controlling shareholder = 43.53) and MLI (No controlling shareholder = 67.48; Controlling shareholder = 59.87). It seems that dispersed shareholders might not need extensive assurance as represented by the lower QAS score but value the extra control provided by CCI and MLI.

As the agents of the shareholders, the board is the primary governance mechanism used in the management of the agency problem. Board-level controls are important as the board is an alternative to shareholder monitoring, which is complicated by the fact that shareholders are dispersed, particularly in large companies. The controlling roles of other governance mechanisms and the board are discussed in detail in chapter 4, the corporate control construct chapter, using the literature to identify and define the different variables and indicators. The discussion of the controlling role of other governance mechanisms considers the market and regulatory mechanisms as external governance mechanisms.

The market-driven external governance mechanism is represented by the shareholders who use the JSE as a market. The shareholder governance variables include controlling shareholders (CONSHA), blockholders (BLOCK) and

directors' shareholding (DIRSHA), all of which use the market to buy and sell shares. Regulatory mechanisms stem from the legal requirements that bond board options, including the legal bonding of industries (IND) and the power of shareholders to use quality assurance (QAS) to bond the board to transparent disclosure practices. The last control variable focuses on company-level control considerations (CCI) that represent past strategic decisions which bond the current board. Such decisions affect the firm's risk and growth, firm size, prior firm performance, board size and board independence. Board size and board independence are included in the CCI as the shareholders appoint the board and control its size and composition. The control variables, along with their definitions, are summarised in Appendix 4. The control variables represent variables that are beyond the direct control of the board in a given year but are variables with expected relationships to firm value. The use of control variables enables the study to control for the variety of factors that influence firm value in order to isolate the relationship between CI and firm value, and MLI and firm value.

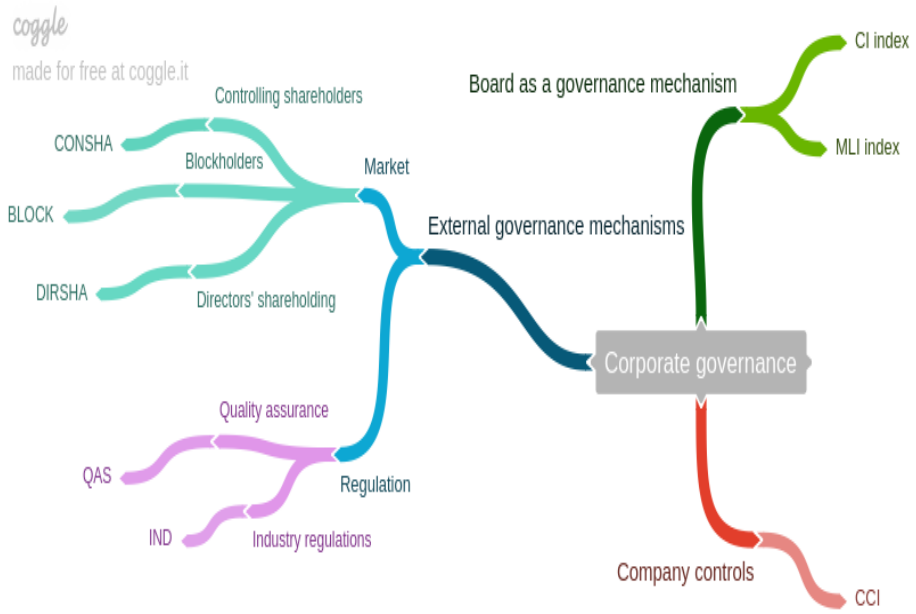
Chapter 4 identifies, discusses and defines the 25 indicators for the CI index to enable this study to develop the CI index and measure the level of the board's corporate control, while chapter 5 identifies, discusses and defines the 23 indicators for the MLI index to enable this study to develop the MLI index and measure the level of the board's managerial labour. In addition to contributing to the body of knowledge on board-level controls by positioning the controlling role of the board in the corporate control construct with directional control in the managerial labour construct, this study extended the index building practice used in corporate governance studies to measure the board as a governance mechanism by constructing the CI and MLI indexes.

The control variables are influenced by the market, which enables shareholders to buy and sell shares (CONSHA, BLOCK and DIRSHA), and the regulations that influence industries (IND) and enable shareholders to use quality assurance (QAS) to bond the board. Given the control focus of chapter 4, the control variables were also identified and defined in chapter 4. As the board consists of

various directors and its composition may differ slightly from year to year, prior company decisions such as those that affect the company's risk, growth and leverage bond the options of the board in the current period. In addition, the board is limited to the people appointed to the board by the shareholders and is bonded by the size of the board and the level of independence of the board as represented by CCI.

Figure 8-1 visually represents the various governance variables and indexes used in this study to highlight the board-level control focus and its interconnectedness with corporate governance.

Figure 8-1 Control focus of governance



The use of control variables in a multiple regression model enables the use of econometric methods to simulate an experimental design using non-experimental observations to identify the relationship between the independent and dependent variables while holding the other variables constant. The independent variables are the CI and MLI indexes and are discussed in more detail in the following sections.

8.2.1 CI Index

The monitoring and controlling role of the board are consolidated in the CI index. The board's monitoring and controlling role are designed to limit the excessive use of perquisites and to curb slacking. Monitoring controls focus on the separation of duties with independent oversight for the board, as well as board committees, to encourage diligence. Board diligence encompasses the number of board meetings, the distractions created by other directorships, and sustained independence. The last group of indicators focuses on the board committee controls and considers the nomination, remuneration, risk, and S&E committees, their composition and the independence of their chairmen.

This study differs from other board-related studies by positioning quality assurance that includes the statutory audit committee as a control variable. The audit committee is a statutory committee and are part of QAS, a control variable, as the committee is appointed by the shareholders and reports annually to the shareholders in line with the requirements of the Companies Act.

A mindmap of the CI index describing the 25 indicators with their definitions, is shown in Figure 8-2.

Figure 8-2 CI index

Details of the composition and definitions of the indicators on the CI index are summarised in Appendix 5. Constructing the CI index enabled this study to develop a unique instrument to measure the controlling role of the board. Measuring the controlling role led to the achievement of SO 1 with a constant median at 60% over the period, and an improving mean of 58.85% for 2012, 59.92% for 2013 and 61.33 for 2014.

SO 1 – to develop a CI index to measure the level of corporate control of the board.

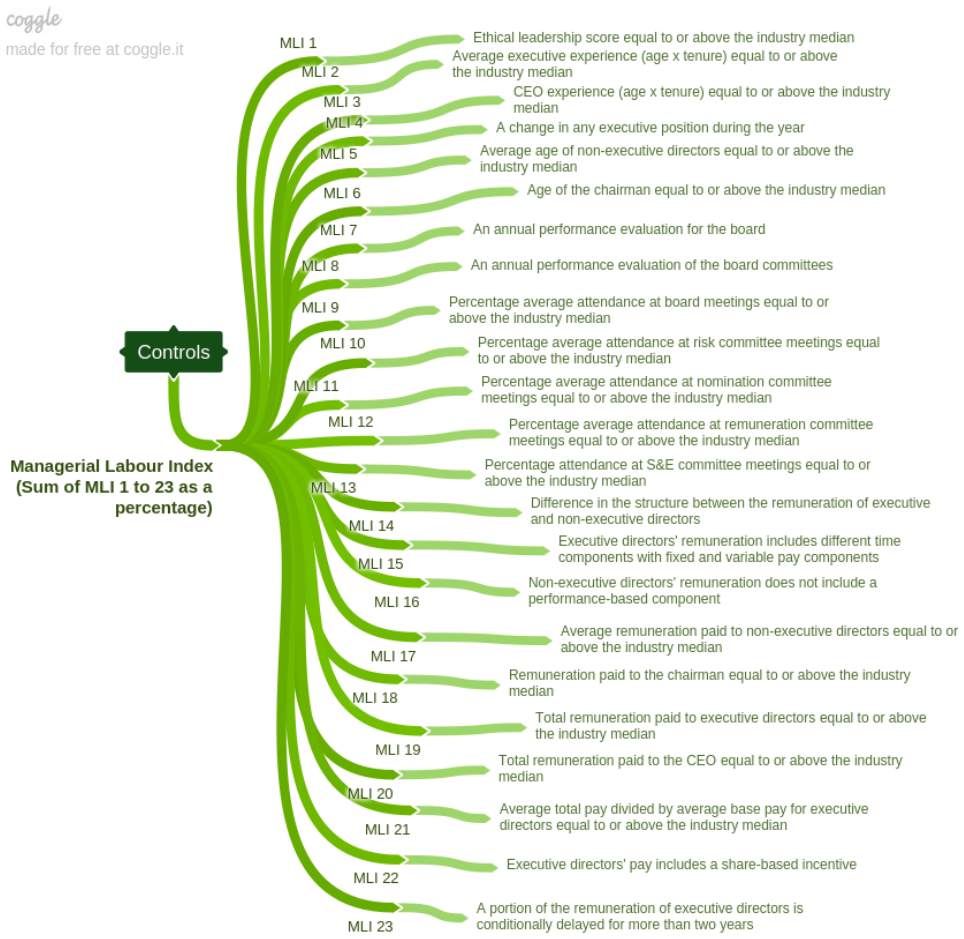
8.2.2 MLI Index

The role of the board in respect of directional control is consolidated in the MLI index. The directional role is geared to guiding the board's activities and labour towards maximising firm value by reducing slacking and rent extraction. However, the developing environment in South Africa, coupled with societal differences, negatively influences the pool of skilled directors. In addition, the Companies Act regulates the responsibility and liability of the board, complicating the managerial labour environment in which boards operate. The labour of the board is rewarded in line with the different board roles of the members, where executive directors are the "specialist managers" with their remuneration linked to firm performance and share-based remuneration with a conditionally delayed component. Non-executive directors are seen as the "specialist monitors" with their remuneration anchored in their oversight role and unrelated to the firm's performance or shares. In directing board activities and labour, the expertise of the board is considered, along with their ages, the performance evaluations of the board as well as board committees, meeting attendance, and the split between executive and non-executive remuneration.

A unique part of the MLI index is the ethical leadership disclosure score or ELDS. Ethical leadership has been a core element in South African governance in line with the African world view. Chapter 1 of King III provides specific guidance on ethical leadership. However, this indicator is difficult to observe and measure. This study used an automated content analysis tool (Leximancer) to assess the individual integrated reports of all the subjects for all the years to develop the ELDS for inclusion in the MLI index, as ethical leadership guides the activities and labour of the board towards goal alignment by discouraging illegal and unethical activities.

A mindmap of the MLI index describing the 23 indicators is shown in Figure 8-3.

Figure 8-3 MLI index



Constructing the MLI index enabled this study to develop a unique instrument to measure the directional role of the board. Measuring the directional role led to the achievement of SO 2 with a constant median at 65% over the period and an improving mean of 63.4% for 2012, 64.88% for 2013 and 55.45% for 2014.

SO 2 – to develop a MLI index to measure the level of managerial labour of the board.

This study developed four unique indexes. Firstly, the CI and MLI indexes were constructed as independent variables representing the controlling and directional role of the board as a governance mechanism. The CI and MLI indexes represent in-depth board-level controls that are assessed on an annual basis in line

with the annual reporting cycle of the board at the AGM. In addition, the study developed two indexes that form part of the control variables. One represents the quality assurance regulatory environment that is unique to South Africa (QAS). The introduction of the 2008 Companies Act changed the audit committee to a statutory committee appointed by the shareholders with a duty to report back to the shareholders annually. The remaining index is the CCI, which represents company controls stemming from past decisions that include firm growth, leverage, size, and risk. The CCI also includes board size and independence, which are under the control of the shareholders who appoint the board. This study deviates from prior board-related studies by positioning board size and independence as beyond the direct control of a board and incorporating them into a control variable (the CCI). The results of the methods of index development used in this study and the panel estimation tests are discussed in section 8.3.

8.3 Discussion of results

The analysis of the data, and thus the results, centres on an assessment of the board as a governance mechanism in relation to firm value. Other analysis alternatives are possible and are discussed in section 8.6 as areas for future research. The relationship between the board and firm value has not been assessed in depth within the context of the more regulatory environment which followed the introduction of the 2008 Companies Act. The result is a gap in the body of knowledge on the revised agency role of the board in relation to the shareholders given the bonding of the board in terms of the Companies Act and the additional decision responsibilities placed on shareholders. The discussion in section 8.3.1 highlights the focus of this study by recapitulating the research question, objective and hypotheses as the starting point of the discussion of the results to link the results to the purpose of the study.

8.3.1 Research question, objectives and hypotheses

The board controls and directs its activities and labour using the corporate control and managerial labour constructs. Thus, considering how boards direct and control their activities and labour in relation to firm value encapsulates the main problem of this study, which can be worded as the following question:

> **What is the relation between the controlling (CI) and directing (MLI) role of the board as a governance mechanism and firm value in a more regulated developmental environment?**

To answer the above question, the study constructed the CI and MLI indexes in order to consolidate the complexity of board-level controls into measurable indexes, to enable an assessment of the relationship between the board (CI and MLI) and firm value with the aid of econometric estimation methods using a micro panel. The changed legislative environment coupled with limited in-depth prior research on the board as a governance mechanism helped to prompt the researcher to undertake the study,[112] which brings us to the purpose of the study.

> **The purpose of this study is to address the knowledge gap with respect to the relationship between the board as a governance mechanism and firm value, that has arisen due to the introduction of the 2008 Companies Act (with its more stringent regulatory environment), from an agency theory perspective.**

This study contributes to the body of knowledge on the board as a governance mechanism by differentiating between the controlling and directing role of the board using the corporate control and managerial labour constructs. The results of the indexes are discussed in section 8.3.2. To focus the study, the purpose was translated into the following main research objective or RO of this study:

> **RO - To assess the relationship between the board as a governance mechanism (CI and MLI) and firm value.**

[112] A detailed discussion on the motivation for undertaking this study can be found in section 1.3.

Theories can be used to help explain a phenomenon, and this study used the agency theory as a basis for discussing the complexity of the relationship between the board's use of board-level controls and shareholders, given the separation of duties between the board and shareholders and the accompanying goal divergence challenges. Measuring board-level controls in the corporate control and managerial labour constructs in combination encapsulates the controls used by the board as a governance mechanism and enables this study to test its main hypothesis.

H 1 – There is a positive relationship between the board as a governance mechanism (CI and MLI) and firm value.

Given the descriptive nature of this study, various analytical methods were used to assess the relationship between the independent variables and the proxies for firm value. The hypotheses testing focused on panel estimation methods, starting with Random Effects and ending with Fixed Effects. The next section summarises the index results.

8.3.2 Index results

This study extended the index building practices in corporate governance to an in-depth study on the controlling (CI) and directional (MLI) role of the board, as a governance mechanism, as well as for two consolidated control variables (QAS and CCI). The board as a governance mechanism is one of a variety of governance mechanisms used in corporate governance, as shown in Figure 8-1. The identification of the indicators used in developing the indexes is discussed, defined and anchored using the literature in chapters 4 and 5, and summarised in Appendixes 4, 5 and 6.

The construction of the unique CI and MLI indexes extended corporate governance index building practices to board-level controls to enable the measurement of the controlling (CI) and directional (MLI) role of the board in the corporate control and managerial labour constructs. Given the scarcity and quality of relevant data, quantifying the controlling and directional role of the board was difficult. However, it enabled this study to contribute to the body of knowledge on

board-level controls. Constructing the CI and MLI indexes enabled the testing of the two sub-hypotheses.

SH 1 – there is a positive relationship between the CI index used to measure the board's level of corporate control and firm value.
SH 2 – there is a positive relationship between the MLI index used to measure the board's level of managerial labour and firm value.

In considering SH 1, CI shows a positive relationship that is statistically highly significant for RoA, EV and NYEV. CI's relationships with Q, NYQ and NYRoA were not significant, and the coefficient values were very small. There was, however, a change to a negative sign for NYRoA. The changed sign could indicate a short-term control focus linked to return on assets which as an accounting ratio is more susceptible to accounting adjustments. The hypothesis is supported as CI bears a positive relationship to RoA, EV and NYEV. However, it is not possible to conclude that there is a relationship between CI and the remaining firm value proxies as the test results were not significant and the relationship is thus not statistically different from zero.

In considering SH 2, MLI shows a positive relationship with RoA but a negative relationship with NYRoA, both of which are statistically highly significant. The change in sign suggests a short-term focus on the directional controls used by the board in relation to RoA. This becomes detrimental in the medium term or suggests a time horizon problem. When compared to the above inflation increase in directors' remuneration (summarised in Table 7-19), it seems that either the specialist skills of directors successfully demanded greater market premiums to compensate them for the increased liability risk since the introduction of the 2008 Companies Act, or there is increased rent extraction by the board, increasing goal divergence. Identifying the root cause behind the changed sign is an area for future study. The relationship between MLI and Q and NYQ is negative and very small but significant, continuing the negative trend. MLI does not bear a significant relationship to EV or NYEV. Thus, the hypothesis is supported as MLI bears a positive relationship to RoA, but negative relationships to NYRoA, Q and

NYQ, in contrast to the predicted relationship. It is not possible to conclude that there is a relationship between MLI and the remaining firm value proxies (EV and NYEV) as the test results were not significant.

The study also extended the practice of index building to construct the QAS and CCI indexes that are part of the control variables. The QAS enabled this study to measure quality assurance by considering the contribution of the audit committee, the appointment of a quality external audit firm and the proportional audit fees paid. The results for QAS show an increasing mean of 48.81% – 2012; 50.8% – 2013 and 51.59% – 2014, with the median increasing in 2013 (33.3% – 2012; 66.7% – 2013 and 66.7% – 2014). CCI enabled this study to control for company level considerations that bond the board's control options in the current year. The mean and median for CCI were more constant and closer together with a mean of 49.6% – 2012; 48.2% – 2013 and 49.4% – 2014 and a constant median of 50% for all periods. Although the CCI score in 2013 was a little lower, the change was around 1% and the median remained constant, indicating that the CCI score has a stable influence over time.

The index construction process followed the guidance of Gompers *et al.* (2003), where each indicator has the same weight in the index. Allocating equal weighting to the different indicators operates on the assumption that they are of equal importance. Prior South African studies that also used index building strategies also placed equal weighting on the different indicators in the index. Thus, testing the equal weight assumption of the individual indicators in the indexes is an area for future study. The construction of the indexes enabled the study to test the sub-hypotheses linked to the individual independent variables.

Given the panel data collected by the study, hypotheses testing was performed using econometric panel estimation methods. The advantage of panel estimation methods is that by using one estimation that considers all the variables, all the underlying relationships can be assessed while considering the cross-sectional as well as time series nature of the data.

8.3.3 Panel estimation methods

The study started its analysis with a pooled OLS estimation to assess the pooled results for all the subjects over the three-year period. The results showed that RoE is not significant for the model as a whole, which excluded RoE and NYRoE from further analysis. Pooled data can increase the risk of heterogeneity, resulting in the need to perform more robust tests. Given the possibility of more random influences stemming from the variability of the results in the descriptive cross-sectional analysis (section 7.3.3), the Breusch-Pagan test was performed with positive results that were highly significant on the cross-sectional analysis and the combined cross-sectional time series analysis but not on the time series, suggesting one-way panel analysis methods on the cross-section.

As a second analysis the study performed a Random Effects estimation using FGLS with cross-section set to random (Test 1). GLS enables the estimation to control for heteroscedasticity. The Random Effects estimation used the Wansbeek-Kapteyn option as an estimator of component variances, given the limited time span of three years, for unbiased estimators. The Hausman test was run after the Random Effects estimation to indicate whether Fixed or Random Effects would be the best option. The results are summarised in Table 8-1.

Table 8-1 Random Effects cross-sectional

	RoA	NYRoA	EV	NYEV	Q	NYQ
CI	**0.13304****	0.036973	**1.1884****	**1.2679***	9.61E-05	0.00025
MLI	**0.13916****	**-0.1421****	0.1894	0.196	-0.001	-0.0005
Hausman test p	0.009**FE**	0.0471**FE**	0.0198**FE**	0.0073**FE**	0.3891**RE**	0.3638**RE**
Weighted R^2	0.07763	0.121729	0.1029	0.06261	0.0949	0.0863
Weighted adjusted R^2	0.04726	0.092815	0.0734	0.03175	0.06506	0.0562
Weighted F-statistic	2.556360	4.209996	3.4837	2.0288	3.1833	2.8693
Weighted prop (F)	0.01***	0.0001***	0.0008***	0.0438**	0.0019***	0.0046***

*** = significant at 0.10 level; ** = significant at 0.05 level; *** = significant at 0.01 level**

FE = Fixed Effects; RE = Random Effects

The results for Test 1 as a whole were statistically significant to highly significant for all dependent variables. The Hausman's test indicates that Random Effects should be the preferred method for Q and NYQ, and Fixed Effects for the other dependent variables. However, as the study used a near population sample, Fixed Effects estimations were performed for all the Dependent variables.

One of the advantages of Fixed Effects estimation is that it controls for time invariant variables that could influence estimations over time. Thus, IND was excluded for Fixed Effects estimations. The Fixed Effects estimation used a one-way Fixed Effects least square (LS) estimation and only held the cross-sectional effects fixed (Test 2).

The results of the Fixed Effects estimation are summarised in Table 8-2. There is a markedly improved level of predictability with the same significance and coefficient signs as for Test 1 for the independent variables, showing consistency in the results between the different estimations for the independent variable relationships.

Table 8-2 Fixed Effects estimation (one-way)

	RoA	NYRoA	EV	NYEV	Q	NYQ
CI	**0.16605****	0.011	**1.2615****	**1.3626***	0.0005	0.0005
MLI	**0.17572*****	**-0.232*****	-0.005	-0.0749	-0.0018	-0.0014
R^2	0.8447	0.7452	0.9785	0.9747	0.9575	0.9428
Adjusted R^2	0.75788	0.6028	0.9666	0.9605	0.9338	0.9108
F-statistic	9.72975	5.2316	81.575	68.822	40.326	29.489
Prop (F)	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***
*** = significant at 0.10 level; ** = significant at 0.05 level; *** = significant at 0.01 level**						

To control for the differences in subjects, the Fixed Effects estimation was extended to a FGLS analysis (Test 3) to adjust for differences in subjects, with the cross-section fixed, weights added to the cross-section, using the White period test to add robust standard errors and corrected degrees of freedom. The results are summarised in Table 8-3.

Table 8-3 FGLS Fixed Effects Estimation

	RoA	NYRoA	EV	NYEV	Q	NYQ
CI	**0.16184*** **	-0.027	**0.6416*** **	**1.0576*** **	0.0004	0.0002
MLI	**0.13826*** **	**-0.156*** **	0.1017	0.0023	**-0.0018** **	**-0.0012** **
R^2	0.9883	0.986	0.9915	0.9948	0.9981	0.9909
Adjusted R^2	0.98179	0.9784	0.9867	0.9919	0.997	0.9858
F-statistic	151.386	127.2037	207.747	343.81	939.45	194.97
Prop (F)	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***

*** = significant at 0.10 level; ** = significant at 0.05 level; *** = significant at 0.01 level**

The results of Test 3 showed high levels of significance with high F statistical values for all dependent variables. In addition, the significance of the relationships between the independent variables and RoA, NYRoA, EV and NYEV was consistent for all tests. However, the more robust Test 3 showed a statistically significant negative relationship between MLI and Q and NYA.

Overall the studies yielded mixed results, with some relationships found to be positive, some negative, and some not statistically significant, suggesting a possible absence of a relationship (shown below as = 0). The overall results for H 1 can be summarised as follows:

- There is a positive relationship between the board as a governance mechanism (CI = positive and MLI = positive) and RoA as a proxy for firm value.
- There is a negative relationship between the board as a governance mechanism (with CI = 0 and MLI = negative) and NYRoA.
- There is a positive relationship between the board as a governance mechanism (CI = positive and MLI = 0) and EV and NYEV.
- There is a negative relationship between the board as a governance mechanism (with CI = 0 and MLI = negative) and Q and NYQ.

It is possible that some of the small coefficients can be explained by the fact that board-level controls are dwarfed by the other governance mechanisms or that board-level controls have stabilised or plateaued and merely continue to control on

a basic, more protective level to minimise misuse of resources. The negative relationship could be attributed to possible time horizon problems where the board maximise their short-term utility to benefit RoA (a commonly reported ratio) to the determent of NYRoA. The root cause of the negative relationship is an area for future study.

8.4 Summary of research contribution

Firstly, given the complex role of the board, this study contributes to the body of knowledge by building indexes to assess the board's use of controls in the corporate control and managerial labour constructs. Together the MLI and CI indexes represent a set of comprehensive board-level indexes which differentiate this study from prior studies that focused on limited board-level variables. This study used narrower indicator definitions to develop indexes that represent the in-depth use of board-level controls. The indexes comprehensively represent the controlling and directional role of the board by consolidating 25 indicators in the CI index and 23 in the MLI index to permit the study of board-level controls in greater depth. Both indicators showed increasing trends in their means over the period of the study, in line with prior corporate governance indexes that also showed increasing trends. However, for both indexes the medians remained constant over the period.

Secondly, this study contributes to the body of knowledge by adopting a control focus that uses the two constructs to differentiate between the controlling and directional role of the board as a governance mechanism. The focus on control in this study differs from normal operational internal controls as the control mechanisms available to the board focus on directing and controlling the activities and labour of the board at a more strategic level. In contrast to normal internal controls, which generally need to operate in an effective and efficient manner, board-level controls can be slow to respond and filter through to firm value. To assess the inefficiency of the controls, dependent variables with a negative lag (t+1) were added to the model. The most dramatic result was the significantly positive

relation between the board and RoA, which changed to a negative relation to NYRoA that was statistically significant for MLI. The change in the sign suggests a short-term focus linked to RoA which changed to a negative sign for NYRoA, indicating the persistence of time horizon problems. However, identifying the root cause of the problem is an area for future study. EV, a market-based proxy for firm value, indicated that the controlling role (CI) is especially valued. CI showed a highly significant and positive association with EV that increased in coefficient size and retained the positive sign and level of significance between CI and NYEV. Even though the principles for board-level controls have been well established since the introduction of King I, the controlling role of the board still did not plateau as its monitoring and oversight role is still positively associated with EV and NYEV.

Thirdly, South African governance follows the African world view of ubuntu, which emphases ethical leadership. This study extends the existing literature by including an indicator to incorporate ethical leadership in the MLI index. To measure ethical leadership, a qualitative content analysis of the integrated reports of the relevant companies was carried out with the aid of Leximancer.[113] This enabled the study to incorporate ethical leadership into the MLI index to acknowledge the hybrid governance model used in South Africa. The average ELDS run on all 84 companies' integrated reports together per year initially showed an improving trend, moving from 2407 in 2012 to 3486 in 2013 and falling back to 2541 in 2014. In addition, this study included the social and ethics (S&E) committee, which is a statutory board committee, in the indicators for the CI and MLI indexes. The inclusion of ethical elements set the South African governance view apart from the views of developed countries, bonding the control options of the board to the ubuntu view. However, given the pervasive corruption score and continued societal inequality, encouraging an ethical view does not always counteract the practice of maximising self-interest.

Fourthly, this study extends the index-building practice used to consolidate independent variables into control variables. The first consolidated control variable

[113] Leximancer is an automated content analysis tool.

is the quality audit score (QAS). The QAS consolidates the bonding impact of the Companies Act requirements relating to external audit and the audit committee into a single score. The development of a QAS sets this study apart as it consolidates the complex relationship linked to assurance into an index and positions the audit or assurance relationship outside the control of the board. The results for QAS show an increasing mean of 48.81% – 2012; 50.8% – 2013 and 51.59% – 2014, and median 33.3% – 2012; 66.7% – 2013 and 66.7% – 2014. The second consolidated control variable focuses on company-level controls or company control indicators (CCI). CCI consider the risk, growth, prior performance, company size, board size and board independence in the index construction process. This study breaks new ground by positioning board size and independence outside the direct control of the board as part of the CCI index. Board size and independence are dependent on the shareholders who appoint the board. The development of the CCI differentiates this study as it consolidates the complexity of past control or direction decisions (relating to risk and growth for example) which bond the current options of the board with the board size and composition into an index that is beyond the direct control of the board in the current year. The mean and median for CCI were more constant and closer together with a mean of 49.6% – 2012; 48.2% – 2013 and 49.4% – 2014 and a constant median of 50% for all periods.

In the fifth place, this study is based on boards of companies on the SRI index and uses an agency theory perspective on SRI companies that has a social responsibility focus coupled with transparent reporting. An agency theory perspective in a study on the SRI index is relatively unexplored in South Africa as prior studies using the SRI index focused on social or sustainable objectives. However, as the SRI companies are larger companies with separation between the board and shareholders, an agency relationship exists with its related goal divergence problems, as evidenced by African Bank and Steinhoff International, both part of the SRI index. Although the selection of companies in prior corporate governance studies which used samples of 90 or more companies would have overlapped with companies on the SRI index, these studies did not analyse the results linked to companies on the SRI index in their findings.

In the sixth place the period of this study focuses on the business environment after the enactment of the 2008 Companies Act. The study began in 2012 and ended in 2014 as the composition of the SRI index changed in 2015. Thus, the timing of the study was influenced by structural changes. The 2008 Companies Act increased the legislative requirements applicable to directors in a manner that increased their bonding and granted shareholders more power to approve directors' remuneration and appoint an audit committee that reports to the shareholders. This changed requirement of the Companies Act requires a re-balancing of the agency relationship between the board and the shareholders. This study contributes to the body of knowledge by assessing the relationship between the board as a governance mechanism and firm value, in an altered and more regulated environment and a developing economy.

In the seventh place the focus of this study on the SRI index includes companies from all industries. The study used a unique industry classification based broadly on the spectrum of customers to identify two industry groupings. The first group was the basic or primary industry, with a limited number of customers, and the second group the consumer-centred industry with a wide spectrum of customers. In the industry classification the primary industries have a higher average CI score (63.8%) when compared to the consumer-centred industries (56.1%), illustrating that industries influence board-level control options.

The next section summarises the delimitations and limitations of the study and the assumptions made by this study.

8.5 Delimitations and limitations

The delimitations include the focus of this study on the relationship between the board as a governance mechanism and firm value within the context of the more regulated environment of the 2008 Companies Act, using an agency theory lens. The assessment performed in this study focused on the relationship between the

board as a governance mechanism and firm value. It is not a causal study geared to the prediction of firm value. The starting point chosen for the study was the introduction of the 2008 Companies Act as the Act legislates the responsibility and liability of the board and the accountability of the board to the shareholders. The annual accountability to the shareholders, coupled with division of duties between shareholders and the board, establishes an agency relationship. Annual timelines were used as the board has to report annually to the shareholders at the AGM and uses the annual integrated report as the main feedback report. Furthermore, the study used an agency theory lens as the assumptions applicable to the agency theory apply to large companies with separation of duties between the board and shareholders, and this delineates the study.

The study is limited by the agency theory lens and its reliance on efficient markets in South Africa. The market is smaller and less liquid, which implies a limitation, as it might not be possible to buy and sell shares as freely as in a more developed market. The reliance on the economic principle of effective markets might not be a valid assumption as South Africa is a developing country with foreign exchange controls and a smaller, less liquid market. However, the maximisation of self-interest assumption is evident in South African society, especially when the high corruption index score is considered. The limited market in South Africa also influences the labour market as the pool of available directors is limited, which could result in upward pressure on directors' remuneration due to supply and demand limitations.

The index construction process followed the guidance of Gompers *et al.* (2003) where each indicator is assumed to contribute in an equal manner to the index. This assumption is in line with prior studies, but a future study could consider whether the indicators should receive different weightings.

Boards of companies on the SRI index were used as the SRI index uses better transparent disclosure practices, especially on non-financial information. However, the use of a balanced panel was a limitation as the same companies had to be

included for all periods. This led to the exclusion of some companies as noted in Appendix 2. The aim of the selection of the sample was to get as close to a census as possible given the limitations of a balanced panel. The next section highlights areas for future research.

8.6 Areas for future research

A number of areas for future research have been highlighted by this study as listed below.

- Assess the relative contribution of the individual indicators to test the assumption that board-level controls should be equally weighted in an index.
- Consider a different theoretical view like institutional theory or signalling theory to the board as a governance mechanism to help establish a deeper understanding of the control options used by boards.
- Assess the MLI index's relationship to accrual quality or agency costs given the negative signs linked to MLI.
- Assess the relationship between the implementation of improved governance practices and economic growth under more constrained economic conditions to determine whether improved governance practices do in fact enhance competitiveness and improve economic growth.
- Assess the magnitude of the differences between groups, for controlling shareholders versus dispersed shareholders, and the changes in company- and board-level controls linked to the different ownership categories.
- Investigate the maturing contribution of institutional shareholders in South Africa as a governance mechanism.
- Assess the relationship between ethical leadership using the ELDS score and other board-level controls and firm value.

- Investigate the contribution of the two specialist roles of the board by separately analysing the relationship between expert monitoring by non-executive directors, including independent directors, and specialist management by executive directors and firm value.
- Assess whether the governance recommendations have been successful in reducing time horizon problems by using a variety of mechanisms to structure the remuneration of executive directors.

8.7 Conclusion

The purpose of this study is to address the knowledge gap with respect to the relationship between the board as a governance mechanism and firm value, that has arisen due to the introduction of the 2008 Companies Act (with its more stringent regulatory environment), from an agency theory perspective. The changed legislative environment requires the repositioning of the agency relationship between the board and shareholders as legislative changes increase the shareholders' approval responsibilities and the bonding of the board. To enable the study to achieve its purpose, an index representing the controlling role of the board was developed in the corporate control construct and an index representing the managerial labour of the board was developed in the managerial labour construct. The development of the indexes enabled the study to measure the controlling and directional role of the board as a governance mechanism against firm value.

The study investigated boards in South African companies on the Socially Responsible Investment (SRI) index for the period 2012 to 2014 given the structural break of the introduction of the 2008 Companies Act in 2012 and the structural change to the SRI index in 2015. The sample consisted of 84 boards over three years, resulting in 252 firm year observations, comprehensively covering the index given the limitation of obtaining a balanced panel.

The study followed a quantitative approach using panel analysis and considering both the cross-sectional and time series nature of the data. The main estimation method used was Fixed Effects with the cross-section kept fixed and with weights added to the cross-section as well as using the White period in a feasible general least squares analysis, to ensure a robust estimation. The study used different proxies for firm value by considering return on assets (RoA), enterprise value per share (EV) and Tobins's Q (Q) as the dependent variables. In addition, a negative lagged relationship to the next year's (NY) firm values for all dependent variables was also considered (NYRoA, NYEV & NYQ).

Both the CI and MLI were positively related to RoA but their relationship to NYRoA became negative. The changed sign suggests that board-level controls use a short-term focus to maximise RoA in a manner that is negative in the longer term, revealing a time horizon problem. The relationship between CI and EV is highly significantly positive, suggesting that the more market-focused measure value board-level controls as an alternative to shareholder monitoring and the positive relationship continue into the next period. The coefficient for NYEV is slightly larger and significant. In contrast the relationship between MLI and Q as well as NYQ shows small coefficients that are significant and negative. The negative sign could be influenced by the fact that the additional approval responsibilities of the shareholders bond the shareholders to direct the labour of the board, thereby reducing the value of MLI, or that shareholders used the introduction of the Companies Act to maximise directors' remuneration as their remuneration increased above inflation in total over the period.

This study showed that board-level control is still a factor that bears a relationship to firm value. However, there were mixed findings among the different proxies for firm value. The board as a governance mechanism is positively related to RoA, EV and NYEV, and negatively related to NYRoA, Q and NYQ.

“There’s a trick to the 'graceful exit.' It begins with the vision to recognize when a job, a life stage, or a relationship is over — and let it go. It means leaving what’s over without denying its validity or its past importance to our lives. It involves a sense of future, a belief that every exit line is an entry, that we are moving up, rather than out.”

Ellen Goodman

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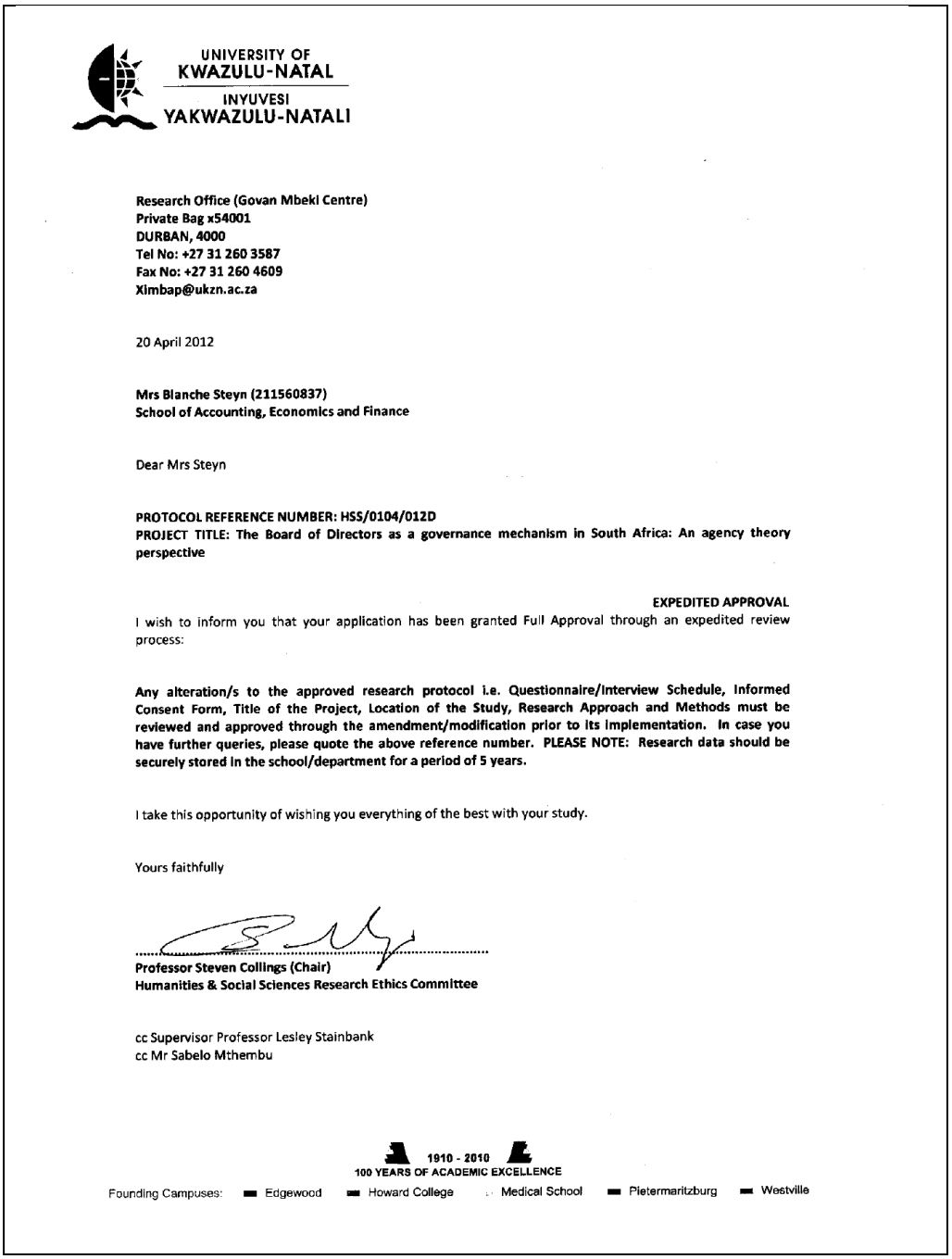
Appendix 1 Ethical approval

Below at the original ethical clearance document as well as the approval given the extended period of the study.



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20 April 2012

Mrs Blanche Steyn (211560837)
School of Accounting, Economics and Finance

Dear Mrs Steyn

PROTOCOL REFERENCE NUMBER: HSS/0104/012D
PROJECT TITLE: The Board of Directors as a governance mechanism in South Africa: An agency theory perspective

EXPEDITED APPROVAL

I wish to inform you that your application has been granted Full Approval through an expedited review process:

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Professor Steven Collings (Chair)
Humanities & Social Sciences Research Ethics Committee

cc Supervisor Professor Lesley Stainbank
cc Mr Sabelo Mthembu

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06 December 2017

Mrs Blanche Steyn (211560837)
School of Accounting, Economics & Finance
Westville Campus

Dear Mrs Steyn

Protocol reference number: HSS/0104/012D
Project title: The Board of Directors as a governance mechanism in South Africa: An agency theory perspective

Approval Notification – Recertification Application

Your request for Recertification dated 04 October 2017 was received.

This letter confirms that you have been granted Recertification Approval for a period of one year from the date of this letter: This approval is based strictly on the research protocol submitted in 2012.

Any alteration s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study must be reviewed and approved through the amendment /modification prior to its implementation. Please quote the above reference number for all queries relating to this study.

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years

Yours faithfully

.....
Dr Shenuka Singh (Chair)

/ms

cc Supervisor: Professor Lesley Stainbank
cc Acting Academic Leader Research: Dr Colette Mulier
cc School Administrator: Ms Seshni Naidoo

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Appendix 2 List of SRI companies

AdvTech Ltd (ADH)	Howden Africa Holdings Ltd (HWN)	Optimum Coal Holdings[114]
AECI Ltd (AFE)	Hulamin Ltd (HLM)	Palabora Mining Company Ltd[115]
African Bank Investments Ltd[116]	Hyprop Investments Ltd (HYP)	Pick n Pay Stores Ltd (PIK)
African Oxygen Ltd (AFX)	Illovo Sugar Ltd (ILV)	PPC Ltd[117] (PPC)
African Rainbow Minerals Ltd (ARI)	Impala Platinum Holdings Ltd (IMP)	RCL Foods Ltd[118] (RCL)
Allied Electronics Corporation Ltd (AEL)	Imperial Holdings Ltd (IPL)	Redefine Properties Ltd (RDF)
Allied Technologies Ltd[119]	Intu Properties Plc[120] (ITU)	Remgro Ltd (REM)
Anglo American Plc (AGL)	Investec Ltd (INL)	Reunert Ltd (RLO)
Anglo American Platinum Ltd (AMS)	JSE Limited (JSE)	RMB Holdings Ltd (RMH)
AngloGold Ashanti Ltd (ANG)	Kap Industrial Holdings Ltd (KAP)	Royal Bafokeng Platinum Ltd (RBP)
Aquarius Platinum Ltd (AQP)	Kumba Iron Ore Ltd (KIO)	SAB Miller Plc (SAB)
Arcelor Mittal South Africa Ltd (ACL)	Lewis Group Ltd (LEW)	Sanlam Ltd (SLM)
Aspen Pharmacare Holdings Ltd (APN)	Liberty Holdings Ltd (LBH)	Santam Ltd (SNT)
Aveng Ltd (AEG)	Life Healthcare Group Holdings Ltd (LHC)	Sappi Ltd (SAP)
Barclays Africa Group Ltd[121] (BGA)	Lonmin Plc (LON)	Sasol Ltd (SOL)
Barloworld Ltd (BAW)	Massmart Holdings Ltd (MSM)	Sibanye Gold Ltd[122]
BHP Billiton Plc (BIL)	Merafe Resources (MRF)	Standard Bank Group Ltd (SBK)
British American Tobacco Plc (BIT)	Mediclinic International Ltd (MDC)	Steinhoff International Holdings Ltd (SNH)
Business Connexion Group Ltd (BCX)	MMI Holdings Ltd (MMI)	Sun International Ltd (SUI)
Capevin Ltd[123]	Mondi Ltd (MND)	Super Group Ltd (SPG)
Clicks Group Ltd (CLS)	Mpact Ltd (MPT)	Telkom SA SOC Ltd[124] (TKG)
Discovery Holdings Ltd (DSY)	Mr Price Group Ltd (MRP)	The Bidvest Group Ltd (BVT)
DRDGOLD Ltd (DRD)	MTN Group (MTN)	The Foschini Group Ltd (TFG)
Exxaro Resources Ltd (EXX)	Murray & Roberts Holdings Ltd (MUR)	The Spar Group Ltd (SPP)
FirstRand Ltd (FSR)	Nampak Ltd (NPK)	Tiger Brands Ltd (TBS)
Gold Fields Ltd (GFI)	Nedbank Group Ltd (NED)	Tongaat Hulett Ltd (TON)
Grindrod Ltd (GND)	Netcare Ltd (NTC)	Truworths International Ltd (TRU)
Group Five Ltd (GRF)	Northam Platinum Ltd (NHM)	Vodacom Group Ltd (VOD)
Growthpoint Properties Ltd (GRT)	Oceana Group Ltd (OCE)	Wilson Bayly Holmes-Ovcon Ltd (WBO)
Harmony Gold Mining Company Ltd (HAR)	Old Mutual Plc (OML)	Woolworths Holdings Ltd (WHL)

[114] Excluded as the company was delisted in July 2012.
[115] Excluded as the company was sold in 2013 to a private consortium and changed to a private company.
[116] Excluded as the company was placed under curatorship 10 August 2014.
[117] Changed the companies name from Pretoria Portland Cement Company Ltd to PPC Ltd in 2012.
[118] Name changed from Rainbow Chicken Limited to RCL foods in 2013.
[119] Excluded as the company became a wholly owned subsidiary of Allied Electronics Corporation Limited in 2013.
[120] Name changed from Capital Shopping Centres Group Plc to Intu Properties Plc in 2013.
[121] Name changed from ABSA Group Limited to Barclays Africa Group Limited in 2013.
[122] Excluded as Sibanye Gold Ltd originated from a split from Gold Fields Ltd in 2013.
[123] Capevin is a passive holding company that listed in August 2012 and was previously known as KWV Ltd.
[124] Telkom SA SOC is a State-Owned Company as the government is the controlling shareholder.

Appendix 3 Dependent variables

The study uses four dependent variables as proxies for firm value. Two accounting related variables return on assets (RoA) and return on equity (RoE) and two market related variables Tobin's Q (Q) and enterprise value per share (EV). Their formulas and ratios have been extracted from INET BFA, the formulas are as follow (INET BFA, 2016):

$$RoA = \frac{((Profit\ Before\ Interest\ And\ Tax\ (EBIT) - Total\ Profit\ Extraordinary\ Nature\ )}{Total\ Assets} \times\ 100$$

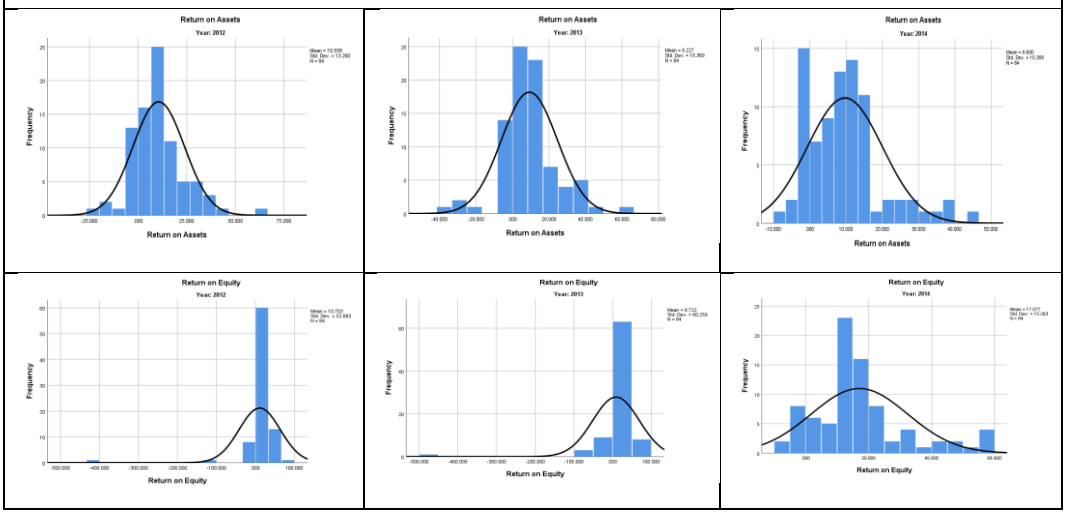
$$\text{RoE} = \frac{\text{Profit Attributible To Ordinary Shareholders}}{\text{Ordinary Shareholders Interest}} \times 100$$

$$\text{EV} \ = \frac{(\text{Market capitalisation at year-end in Rand} + \text{debt} + \text{preference shares}) - \text{cash}}{\text{Number of ordinary shares in issue at year-end}}$$

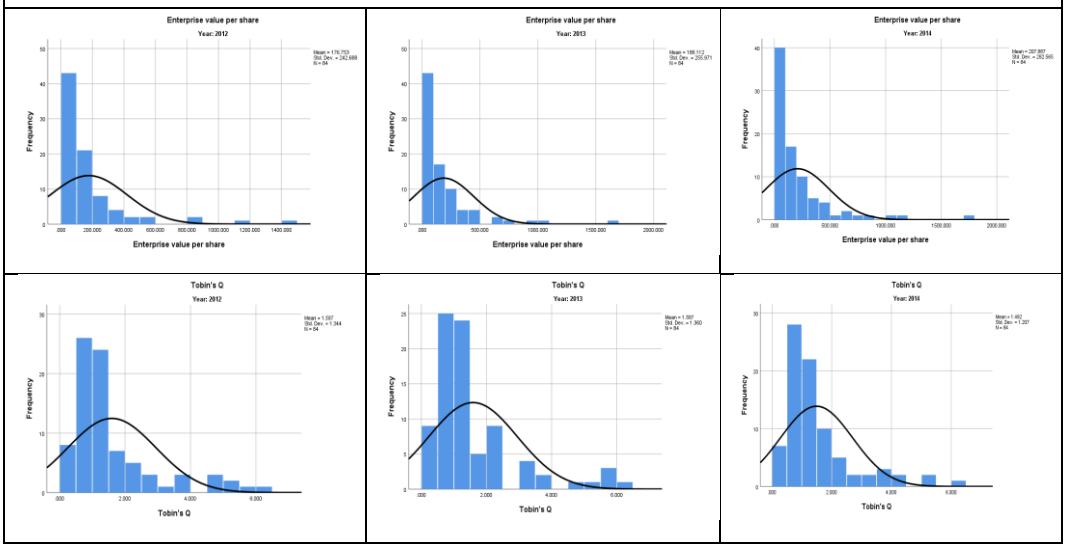
$$\text{Q} = \frac{\text{MV of equity} + \text{book debt}}{\text{assets (valued at replacement cost)}}$$

The following histograms with normal distribution curves show the midpoint and distribution of the different dependent variables for each year.

Dependent variable histograms with normal distribution curves for 2012 to 2014



Dependent variable histograms with normal distribution curves for 2012 to 2014 - continued



Descriptive statistics on the current year's dependent variables and next year's dependent variables

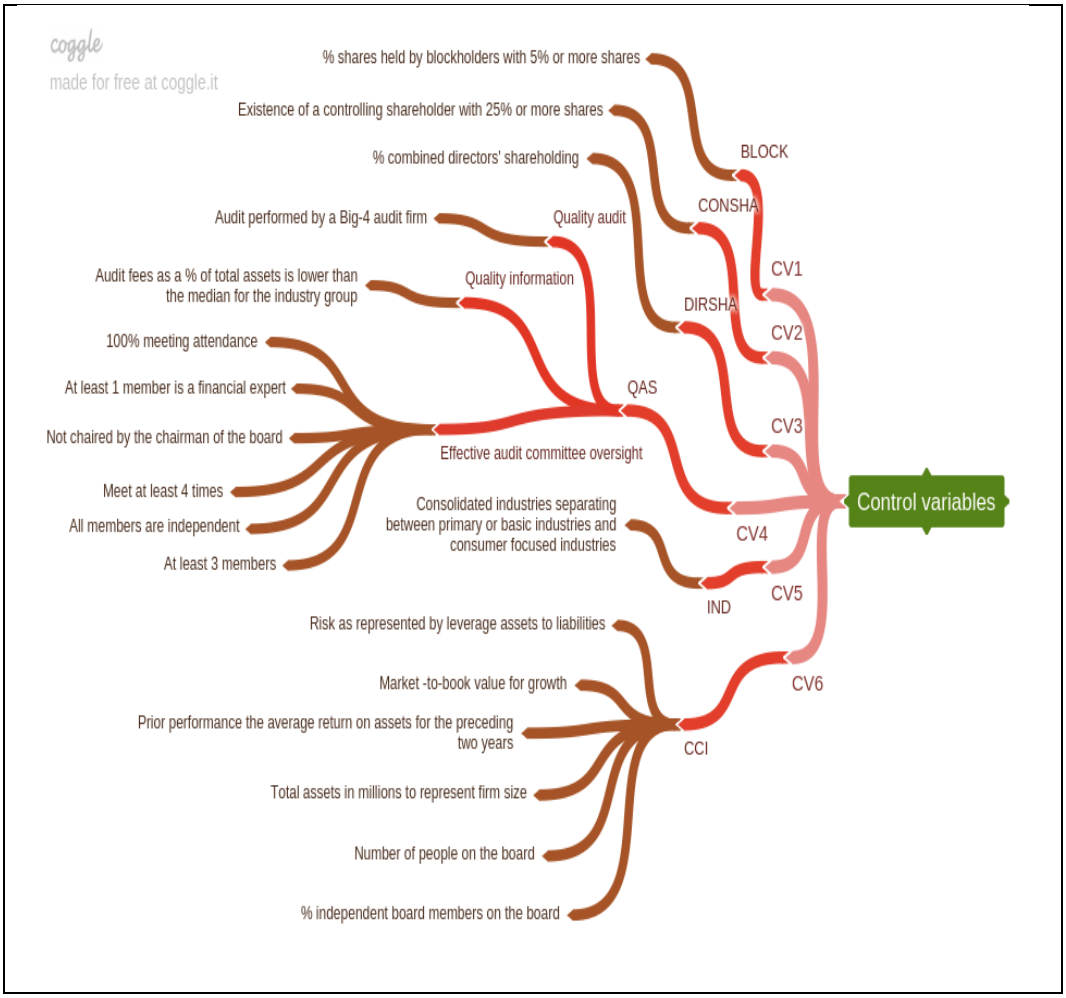
Descriptive statistics on the dependent variables

Year			RoA	RoA	EV	Q	NYQ	NYRoA	NYRoE	NYEV
2012	N	Valid	84	84	84	84	84	84	84	84
		Missing	0	0	0	0	0	0	0	0
	Mean		10.55788	10.70252	176.75351	1.59655	1.5869	9.2270	8.722	188.1119
	Median		8.53300	14.71400	92.16800	1.13000	1.1350	7.6800	14.240	93.8400
	Std. Deviation		13.26028	52.68265	242.68792	1.34352	1.3601	15.3694	60.2586	255.9708
	Variance		175.835	2775.461	58897.426	1.805	1.850	236.219	3631.09	65521.06
	Minimum		-25.760	-422.655	1.047	.130	.13	-40.31	-483.7	1.26
	Maximum		63.370	81.609	1457.792	6.090	6.10	63.73	74.2	1610.64
	Percentiles	25	2.46275	7.25850	44.08375	.78750	.7775	1.5200	6.893	42.8775
		50	8.53300	14.71400	92.16800	1.13000	1.1350	7.6800	14.240	93.8400
		75	15.90800	23.12875	191.15125	1.84250	1.9650	15.4775	21.633	223.7275

Descriptive statistics on the dependent variables - continued										
Year			RoA	RoA	EV	Q	NYQ	NYRoA	NYRoE	NYEV
2013	N	Valid	84	84	84	84	84	84	84	84
		Missing	0	0	0	0	0	0	0	0
	Mean		9.22707	8.72208	188.1115	1.58690	1.4917	9.6904	17.077	207.8873
	Median		7.68050	14.23700	93.84050	1.13500	1.1000	8.7250	14.550	114.0100
	Std. Deviation		15.36955	60.25877	255.9709	1.36009	1.2072	10.3992	15.2639	282.5648
	Variance		236.223	3631.119	65521.12	1.850	1.457	108.14	232.987	79842.86
	Minimum		-40.314	-483.654	1.263	.130	.13	-6.95	-9.0	1.48
	Maximum		63.732	74.149	1610.636	6.100	6.20	43.62	57.9	1726.47
	Percentiles	25	1.52275	6.89150	42.87825	.77750	.7675	1.1200	9.418	45.1250
		50	7.68050	14.23700	93.84050	1.13500	1.1000	8.7250	14.550	114.0100
		75	15.47675	21.62900	223.7285	1.96500	1.7300	14.0000	21.540	236.7000
2014	N	Valid	84	84	84	84	84	84	84	84
		Missing	0	0	0	0	0	0	0	0
	Mean		9.68985	17.07662	207.8875	1.49167	1.4238	6.1681	11.058	216.5758
	Median		8.72350	14.55050	114.0145	1.10000	1.0050	8.0500	12.630	111.9850
	Std. Deviation		10.39903	15.26335	282.5651	1.20715	1.3682	13.9098	21.691	308.2742
	Variance		108.140	232.970	79843.05	1.457	1.872	193.483	470.51	95032.99
	Minimum		-6.946	-8.971	1.476	.130	.10	-75.08	-88.6	.83
	Maximum		43.623	57.888	1726.472	6.200	8.71	40.80	75.1	1834.31
	Percentiles	25	1.11700	9.41600	45.12550	.76750	.5825	-.2325	6.863	38.2525
		50	8.72350	14.55050	114.0145	1.10000	1.0050	8.0500	12.630	111.9850
		75	13.99700	21.53825	236.7040	1.73000	1.5325	13.3525	18.215	254.0200

Appendix 4: Control variables

The control variables (CVs) are visually summarised in the mindmap below, followed by their definitions and histograms with normal distribution curves to show their midpoint and distribution.



CV_1 = BLOCK

is the percentage combined shareholding of blockholders with 5% or more shares in a company who are not a controlling or dominant shareholder. The relationship between monitoring by blockholders and firm value is expected to be positive as blockholders' shareholding is too small to directly extract rent, which motivates them to maximise firm value through monitoring.

CV_2 = CONSHA is a dichotomous variable where a controlling shareholder is a shareholder with 25% or more shares in a company (coded as 1), and companies without a dominant shareholder are seen as companies with dispersed shareholders (coded as 0). The relationship between monitoring by a controlling shareholder and firm value is expected to be negative as the controlling shareholders could use their position to maximise their utility, to the disadvantage of minority shareholders and the company. In situations where the controlling shareholder is a director or directors, the company would be classified as being without a dominant shareholder (coded as 0) as the company is controlled by the board.
CV_3 = DIRSHA is the percentage combined disclosed directors' shareholding of the total shareholding (all the shareholding data were extracted from INET or Thompson Reuters databases). The relationship between monitoring by directors' shareholding and firm value is expected to be negative as directors can still use moral hazard and information asymmetry to maximise their own benefit.
CV_4 = QAS is the sum of the three quality audit elements. The relationship between quality audit and firm value is expected to be negative as quality audit is a well-established monitoring control used to control information asymmetry. 1) The appointment of a quality or Big-4 audit firm as the external auditors. A Big-4 firm is coded as 1. 2) The current year's reported audit fees as a proportion of the total assets below the median of the proportion of the current year's audit fees to total assets for the industry grouping are coded as 1 and the rest as zero.

3) Audit committees that comply with all six listed characteristics are considered effective audit committees (coded as 1). The audit committee characteristics are:

CV_4 = QAS – continued

The audit committee characteristics are:

- the audit committee consists of at least 3 members,
- all the members are listed as independent directors,
- at least one member has financial expertise,
- not chaired by the chairperson of the board,
- the audit committee meets at least 4 times a year, and
- all the members attended all the meetings.

CV_5 = IND

is a dichotomous variable where the primary sectors, such as mining (basic materials), oil and gas, technology and industrial sectors (industrials) with few customers are coded as 0. The customer-centred sectors, such as consumer goods and services, health care, finance (financials) and telecommunication sectors with large customer bases are coded as 1. As all industries need to comply with legislative requirements, their control mechanisms are selected to maximise the performance of the company in the industries, and no relationship between industries and firm value is expected.

CV_6 = CCI

represents the sum of the six company control variables plus two board variables as the shareholders appoint the board, expressed as a percentage. The CCI is calculated by coding companies as 1 for results equal to or above the median and zero for those below the median, calculated as a percentage. The median is calculated using the following industry classification applicable to this study:

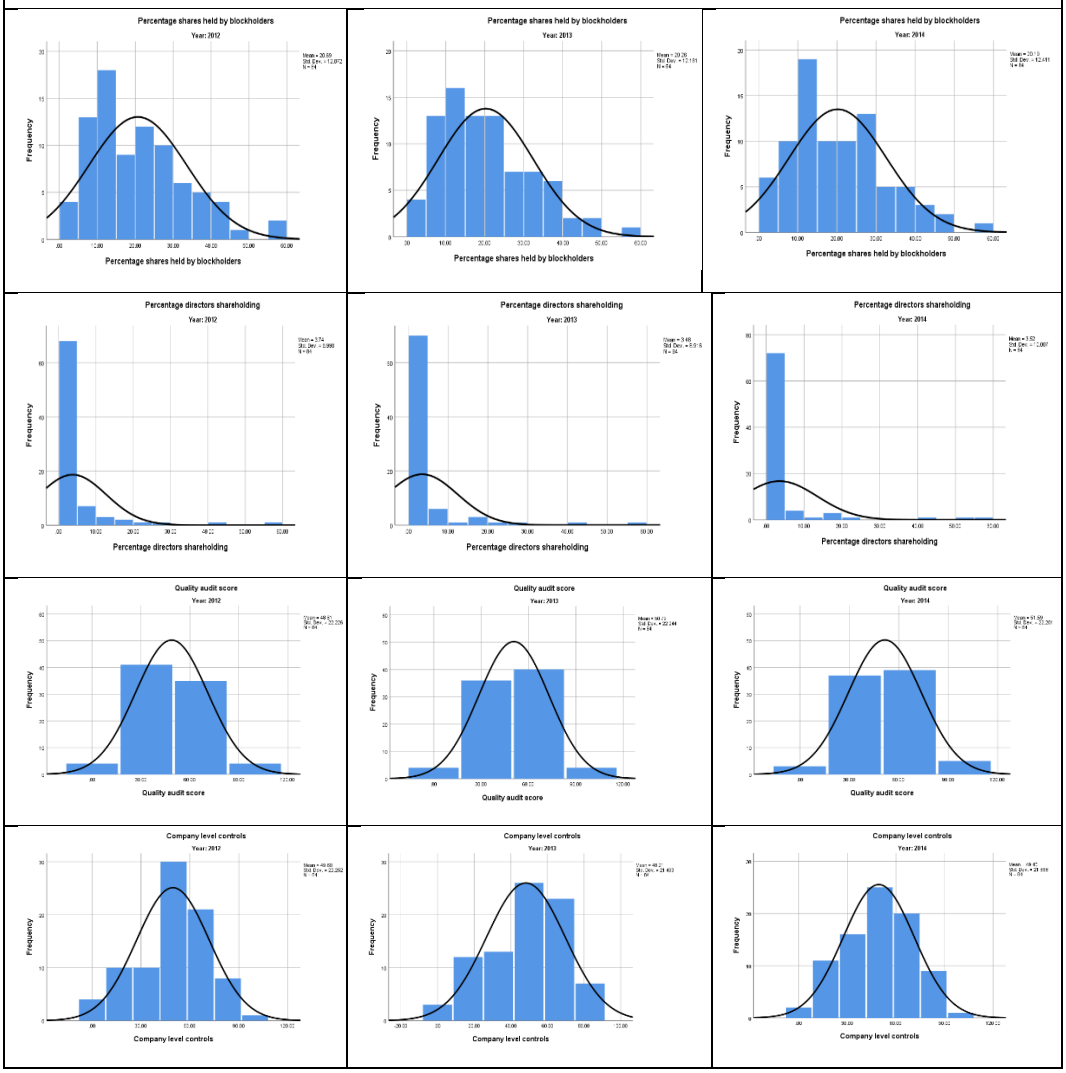
- risk as proxied by leverage (the assets-to-liabilities ratio = (([Long Term Liabilities]+([Current Liabilities])/([Total Assets])),
- growth as proxied by the market-to-book value ratio,

- performance as proxied by the average return on assets for the preceding two years,
- company size as proxied by total assets in millions,

CV_6 = CCI - continued

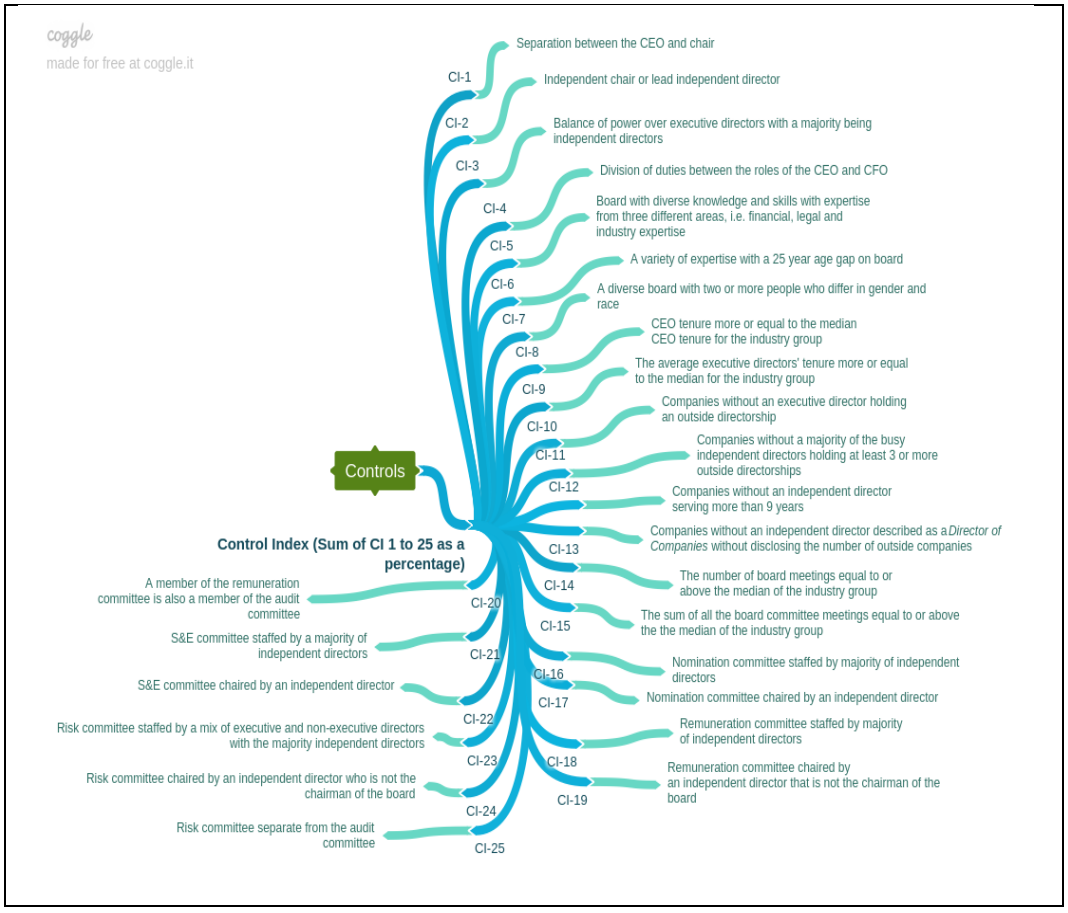
- board size (the number of people on the board) and
- board independence (the number of independent directors divided by the total number of people on the board) as a percentage.

Control variable histograms with normal distribution curves for 2012 to 2014



Appendix 5: CI index

The CI index are visually summarised in the mindmap below, followed by the indicator definitions and histograms with normal distribution curves to show the midpoint and distribution of the CI index per year.



The following definitions describe the existence of a control indicator scored as "1", the absence of a control indicator was scored as "0". The CI index score is calculated by adding the total of all the indicators and calculating the total as a percentage to measure corporate control.

CI_1 = Separation between the roles of the CEO and chair.

CI_2 = The existence of an independent chair or lead independent director.

CI_3 = A balance of power requiring a balance between the power of the executive directors and a majority of the board as independent directors.

CI_4 = Separation of duties between the roles of the CEO and the CFO.

CI_5 = Diverse knowledge and skills, requiring the board to have a variety of qualifications and skills, with at least one director for three different areas of expertise.

CI_6 = A variety of experience on the board where age is a proxy for experience, indicating an age gap of 25 years or more between the youngest and oldest director on the board.

CI_7 = A diverse board is a board that represent a mix between gender and race/ethnicity. A mix between gender and race requires at least two people from a different gender as well as at least two people from a different race to be members of the board.

CI_8 = CEO tenure equal to or above the median CEO tenure for the industry grouping.

CI_9 = Average executive director tenure equal to or above the median executive director tenure for the industry grouping.

CI_{10} = Companies without an executive director who holds an outside directorship that could erode the director's diligence.

CI_{11} = Companies without a majority of busy independent directors. Where a busy independent director holds three or more other directorships (outside the group), and a busy board has a majority of busy independent directors.

CI_{12} = Companies without an independent director who has served on the board for more than nine years.

CI_{13} = Companies without an independent director who describes his or her position as a "*Director of Companies"* but does not disclose the number of outside companies he/she serves on as a director.

CI_{14} = Companies where the number of board meetings are equal to or exceed the median of the industry grouping, thereby showing diligent board monitoring.

CI_{15} = Companies where the sum of all the board committee meetings are equal to or above the median of the industry grouping, thereby showing diligent board committee monitoring.

CI_{16} = Nomination committee staffed by a majority of independent directors.

CI_{17} = Nomination committee chaired by an independent director.

CI_{18} = Remuneration committee staffed by a majority of independent directors.

CI_{19} = Remuneration committee chaired by an independent director who is not the chairman of the board.

CI_{20} = One of the members of the remuneration committee is also a member of the audit committee (to allow the remuneration committee insight into the actual reported performance of the company in their assessment of the fairness of executive director remuneration).

CI_{21} = S&E committee staffed by a majority of independent directors.

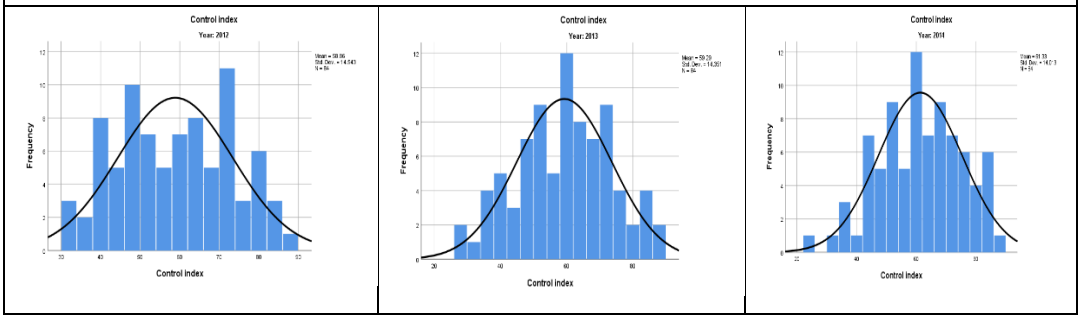
CI_{22} = S&E committee chaired by an independent director.

CI_{23} = Risk committee staffed by a mix of executive and non-executive directors with a majority of independent directors.

CI_{24} = Risk committee chaired by an independent director who is not the chairman of the board.

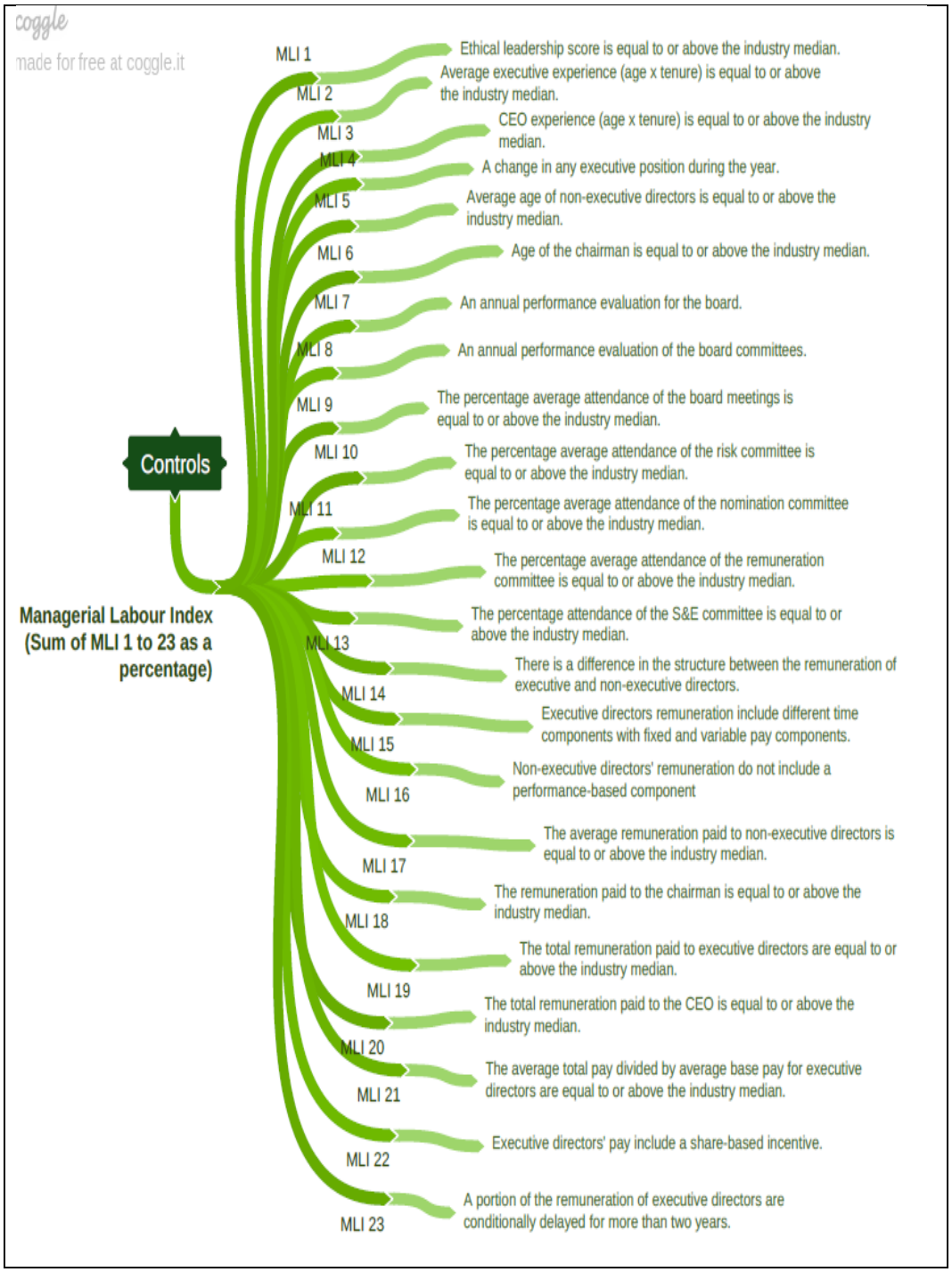
CI_{25} = Risk committee separate from the audit committee.

CI index histograms with normal distribution curves for 2012 to 2014



Appendix 6: MLI index

The MLI index are visually summarised in the mindmap below, followed by the indicator definitions and histograms with normal distribution curves to show the midpoint and distribution of the MLI index per year.



The following definitions describe the existance of a control indicator scored as “1”, the absence of a control indicator was scored as “0”. The MLI index score is calculated by adding the total of all the indicators and calculating thwe total as a percentage to measure corporate control.

MLI_1 = Ethical leadership as represented by an ELDS score that is equal to or above the median ELDs score for the industry grouping.

MLI_2 = Executive experience is represented by multiplying the age and tenure of executive directors and averaging the result per company to obtain an average executive expertise score. Companies with high average executive expertise are companies with an average expertise score equal to or above the median for the industry group.

MLI_3 = CEO expertise is represented by multiplying the age and tenure of the CEO to obtain a CEO expertise score. Companies with high CEO expertise are companies where the CEO expertise score is equal to or above the median for the industry group.

MLI_4 = Companies without a change in the incumbents of executive director’s posts during the year have a more stable and controlled labour direction.

MLI_5 = Companies where the average non-executive directors’ age is equal to or above the median of the average non-executive directors’ age for the industry group.

MLI_6 = Companies where the age of the chair is equal to or above the median for the industry group.

MLI_7 = The existence of an annual performance evaluation for the board and its members.

MLI_8 = The existence of an annual performance evaluation for the risk, nomination, remuneration and social and ethics committee (board committees).

MLI_9 = Companies where the average attendance of board meetings is equal to or above the median for the industry group.

MLI_{10} = Companies where the average attendance of the risk committee meetings is equal to or above the median for the industry group.

MLI_{11} = Companies where the average attendance of the nomination committee meetings is equal to or above the median for the industry group.

MLI_{12} = Companies where the average attendance of the remuneration committee meetings is equal to or above the median for the industry group.

MLI_{13} = Companies where the average attendance of the social and ethics committee meetings is equal to or above the median for the industry group.

MLI_{14} = Companies that apply different remuneration practices in line with King III for executive versus non-executive directors in line with their different roles.

MLI_{15} = Companies where the remuneration of executive directors consists of a fixed and variable component that includes short-, medium- and long-term incentive considerations.

MLI_{16} = Non-executive directors do not receive a performance-based incentive.

MLI_{17} = Companies with an average total remuneration paid to non-executive directors (in Rand) that is equal to or above the median for the industry group.

MLI_{18} = Companies where the total remuneration paid to the chairman of the board (in Rand) is equal to or above the median for the industry group.

MLI_{19} = Companies where the average total (gross) remuneration[125] paid to executive directors (in Rand) is equal to or above the median for the industry group.

MLI_{20} = Companies where the total remuneration paid to the CEO (in Rand). is equal to or above the median for the industry group.

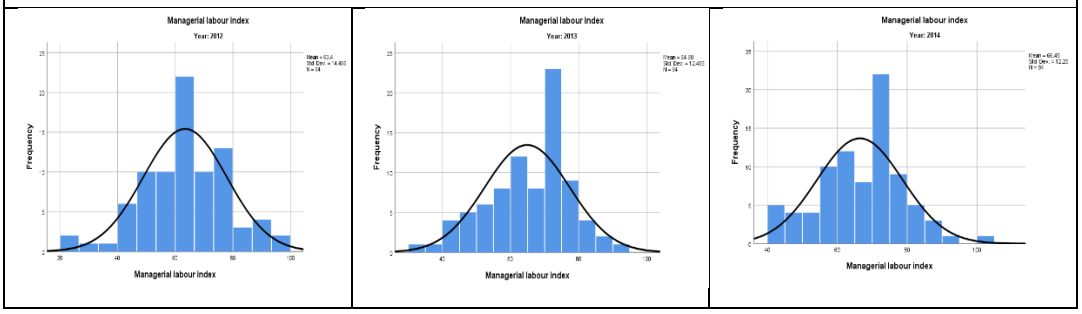
[125] Total remuneration consists of base pay that includes benefit contributions, bonuses received, and share options exercised.

MLI_{21} = Companies where the average percentage total pay as a percentage of the average base pay for executive directors is equal to or above the median for the industry group.

MLI_{22} = The existence of a share-based incentive for executive directors.

MLI_{23} = The existence of remuneration for executive directors that is conditionally delayed for more than two years.

MLI index histograms with normal distribution curves for 2012 to 2014



Appendix 7 Cross-sectional multiple regression analysis

Return on assets

Year	R	R Squared	Adjusted R Squared	Std Error of the Estimate	Change Statistics				
					R Squared Change	F Change	df1	df2	Sig. F Change
2012	.371	0.138	0.046	12.953671	0.138	1.497	8	75	0.173
2013	.505	0.255	0.175	13.958902	0.255	3.203	8	75	0.004
2014	.469	0.220	0.137	9.662372	0.220	2.642	8	75	0.013

Return on assets		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
2012	**(Constant)**	**2.114**	**10.514**		**0.201**	**0.841**		
	Percentage shares held by blockholders	**0.093**	**0.126**	**0.091**	**0.738**	**0.463**	**0.765**	**1.307**
	Controlling shareholder	**0.306**	**3.603**	**0.011**	**0.085**	**0.932**	**0.681**	**1.469**
	Percentage directors' shareholding	**-0.090**	**0.160**	**-0.061**	**-0.564**	**0.575**	**0.970**	**1.031**
	Quality audit score	**-0.042**	**0.069**	**-0.071**	**-0.610**	**0.544**	**0.857**	**1.167**
	Industry	**2.589**	**3.079**	**0.098**	**0.841**	**0.403**	**0.843**	**1.186**
	Company level controls	**0.199**	**0.076**	**0.333**	**2.601**	**0.011**	**0.700**	**1.428**
	Control index	**0.037**	**0.114**	**0.040**	**0.323**	**0.748**	**0.737**	**1.357**
	Managerial labour index	**-0.071**	**0.106**	**-0.078**	**-0.676**	**0.501**	**0.861**	**1.162**
2013	**(Constant)**	**-8.152**	**13.934**		**-0.585**	**0.560**		
	Percentage shares held by blockholders	**0.179**	**0.141**	**0.142**	**1.275**	**0.206**	**0.804**	**1.244**
	Controlling shareholder	**2.958**	**3.977**	**0.091**	**0.744**	**0.459**	**0.660**	**1.515**
	Percentage directors' shareholding	**-0.234**	**0.175**	**-0.136**	**-1.340**	**0.184**	**0.965**	**1.036**
	Quality audit score	**-0.196**	**0.075**	**-0.284**	**-2.627**	**0.010**	**0.850**	**1.177**
	Industry	**5.102**	**3.215**	**0.167**	**1.587**	**0.117**	**0.898**	**1.113**
	Company level controls	**0.243**	**0.080**	**0.340**	**3.035**	**0.003**	**0.791**	**1.264**
	Control index	**0.071**	**0.122**	**0.066**	**0.580**	**0.563**	**0.764**	**1.310**
	Managerial labour index	**0.077**	**0.137**	**0.063**	**0.562**	**0.576**	**0.803**	**1.246**

2014	(Constant)	10.215	9.716		1.051	0.296		
	Percentage shares held by blockholders	-0.063	0.093	-0.076	-0.683	0.497	0.848	1.179
	Controlling shareholder	-1.304	2.521	-0.059	-0.517	0.606	0.787	1.270
	Percentage directors' shareholding	-0.118	0.107	-0.113	-1.098	0.276	0.977	1.023
	Quality audit score	-0.115	0.049	-0.246	-2.364	0.021	0.956	1.045
	Industry	3.784	2.251	0.183	1.681	0.097	0.878	1.139
	Company level controls	0.159	0.055	0.334	2.869	0.005	0.768	1.302
	Control index	-0.041	0.089	-0.055	-0.454	0.651	0.719	1.391
	Managerial labour index	0.004	0.092	0.005	0.043	0.966	0.879	1.138

Next year's Return on assets

Year	R	R Squared	Adjusted R Squared	Std Error of the Estimate	Change Statistics				
					R Squared Change	F Change	df1	df2	Sig. F Change
2012	.531	0.282	0.205	13.70323	0.282	3.676	8	75	0.001
2013	.501	0.251	0.171	9.46683	0.251	3.144	8	75	0.004
2014	.577	0.333	0.262	11.94622	0.333	4.691	8	75	0.000

Next year's Return on assets		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
2012	**(Constant)**	**2.345**	**11.122**		**0.211**	**0.834**		
	Percentage shares held by blockholders	**0.168**	**0.134**	**0.141**	**1.257**	**0.213**	**0.765**	**1.307**
	Controlling shareholder	**-1.615**	**3.811**	**-0.050**	**-0.424**	**0.673**	**0.681**	**1.469**
	Percentage directors' shareholding	**-0.236**	**0.170**	**-0.138**	**-1.393**	**0.168**	**0.970**	**1.031**
	Quality audit score	**-0.121**	**0.073**	**-0.176**	**-1.662**	**0.101**	**0.857**	**1.167**
	Industry	**5.816**	**3.258**	**0.190**	**1.785**	**0.078**	**0.843**	**1.186**
	Company level controls	**0.241**	**0.081**	**0.349**	**2.983**	**0.004**	**0.700**	**1.428**
	Control index	**0.123**	**0.120**	**0.116**	**1.019**	**0.311**	**0.737**	**1.357**
	Managerial labour index	**-0.179**	**0.112**	**-0.169**	**-1.604**	**0.113**	**0.861**	**1.162**
2013	**(Constant)**	**16.561**	**9.450**		**1.753**	**0.084**		
	Percentage shares held by blockholders	**-0.027**	**0.095**	**-0.031**	**-0.281**	**0.780**	**0.804**	**1.244**
	Controlling shareholder	**-0.912**	**2.697**	**-0.042**	**-0.338**	**0.736**	**0.660**	**1.515**
	Percentage directors' shareholding	**-0.115**	**0.119**	**-0.098**	**-0.966**	**0.337**	**0.965**	**1.036**
	Quality audit score	**-0.117**	**0.051**	**-0.250**	**-2.308**	**0.024**	**0.850**	**1.177**
	Industry	**3.388**	**2.180**	**0.164**	**1.554**	**0.124**	**0.898**	**1.113**
	Company level controls	**0.172**	**0.054**	**0.355**	**3.161**	**0.002**	**0.791**	**1.264**
	Control index	**-0.030**	**0.083**	**-0.041**	**-0.358**	**0.721**	**0.764**	**1.310**
	Managerial labour index	**-0.122**	**0.093**	**-0.147**	**-1.315**	**0.192**	**0.803**	**1.246**

2014	(Constant)	8.618	12.012		0.717	0.475		
	Percentage shares held by blockholders	-0.193	0.115	-0.172	-1.682	0.097	0.848	1.179
	Controlling shareholder	-2.658	3.117	-0.091	-0.853	0.396	0.787	1.270
	Percentage directors' shareholding	-0.076	0.133	-0.055	-0.574	0.568	0.977	1.023
	Quality audit score	-0.198	0.060	-0.316	-3.281	0.002	0.956	1.045
	Industry	8.007	2.783	0.289	2.877	0.005	0.878	1.139
	Company level controls	0.205	0.068	0.322	2.995	0.004	0.768	1.302
	Control index	-0.035	0.110	-0.036	-0.322	0.749	0.719	1.391
	Managerial labour index	0.012	0.114	0.010	0.102	0.919	0.879	1.138

Return on Equity

Year	R	R Squared	Adjusted R Squared	Std Error of the Estimate	Change Statistics				
					R Squared Change	F Change	df1	df2	Sig. F Change
2012	.279	0.078	-0.020	53.216069	0.078	0.793	8	75	0.610
2013	.282	0.080	-0.019	60.818640	0.080	0.810	8	75	0.596
2014	.578	0.335	0.264	13.097709	0.335	4.715	8	75	0.000

Return on Equity		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
2012	**(Constant)**	**13.474**	**43.193**		**0.312**	**0.756**		
	Percentage shares held by blockholders	**0.375**	**0.519**	**0.092**	**0.724**	**0.472**	**0.765**	**1.307**
	Controlling shareholder	**11.724**	**14.800**	**0.106**	**0.792**	**0.431**	**0.681**	**1.469**
	Percentage directors' shareholding	**0.216**	**0.659**	**0.037**	**0.328**	**0.744**	**0.970**	**1.031**
	Quality audit score	**0.386**	**0.284**	**0.163**	**1.360**	**0.178**	**0.857**	**1.167**
	Industry	**-10.570**	**12.650**	**-0.101**	**-0.836**	**0.406**	**0.843**	**1.186**
	Company level controls	**0.198**	**0.314**	**0.084**	**0.631**	**0.530**	**0.700**	**1.428**
	Control index	**-0.796**	**0.468**	**-0.220**	**-1.702**	**0.093**	**0.737**	**1.357**
	Managerial labour index	**0.130**	**0.434**	**0.036**	**0.299**	**0.766**	**0.861**	**1.162**
2013	**(Constant)**	**-59.237**	**60.709**		**-0.976**	**0.332**		
	Percentage shares held by blockholders	**0.122**	**0.612**	**0.025**	**0.200**	**0.842**	**0.804**	**1.244**
	Controlling shareholder	**20.722**	**17.326**	**0.163**	**1.196**	**0.235**	**0.660**	**1.515**
	Percentage directors' shareholding	**-0.306**	**0.762**	**-0.045**	**-0.401**	**0.690**	**0.965**	**1.036**
	Quality audit score	**-0.666**	**0.326**	**-0.246**	**-2.045**	**0.044**	**0.850**	**1.177**
	Industry	**5.984**	**14.006**	**0.050**	**0.427**	**0.670**	**0.898**	**1.113**
	Company level controls	**-0.094**	**0.349**	**-0.034**	**-0.269**	**0.788**	**0.791**	**1.264**
	Control index	**0.664**	**0.532**	**0.158**	**1.248**	**0.216**	**0.764**	**1.310**
	Managerial labour index	**0.856**	**0.598**	**0.177**	**1.432**	**0.156**	**0.803**	**1.246**

2014	(Constant)	15.081	13.170		1.145	0.256		
	Percentage shares held by blockholders	-0.044	0.126	-0.036	-0.350	0.727	0.848	1.179
	Controlling shareholder	-1.496	3.417	-0.046	-0.438	0.663	0.787	1.270
	Percentage directors' shareholding	-0.119	0.145	-0.078	-0.822	0.414	0.977	1.023
	Quality audit score	-0.075	0.066	-0.109	-1.133	0.261	0.956	1.045
	Industry	11.220	3.051	0.370	3.677	0.000	0.878	1.139
	Company level controls	0.294	0.075	0.422	3.924	0.000	0.768	1.302
	Control index	-0.159	0.121	-0.146	-1.310	0.194	0.719	1.391
	Managerial labour index	-0.044	0.125	-0.035	-0.348	0.729	0.879	1.138

Next year's Return on Equity

Year	R	R Squared	Adjusted R Squared	Std Error of the Estimate	Change Statistics				
					R Squared Change	F Change	df1	df2	Sig. F Change
2012	.241	0.058	-0.043	61.52838	0.058	0.576	8	75	0.794
2013	.588	0.345	0.276	12.99073	0.345	4.949	8	75	0.000
2014	.658	0.432	0.372	17.19225	0.432	7.141	8	75	0.000

Next year's Return on Equity		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
2012	(Constant)	-24.771	49.940		-0.496	0.621		
	Percentage shares held by blockholders	0.152	0.600	0.032	0.254	0.801	0.765	1.307
	Controlling shareholder	17.574	17.112	0.139	1.027	0.308	0.681	1.469
	Percentage directors' shareholding	-0.237	0.762	-0.035	-0.311	0.757	0.970	1.031
	Quality audit score	-0.622	0.328	-0.229	-1.895	0.062	0.857	1.167
	Industry	4.083	14.626	0.034	0.279	0.781	0.843	1.186
	Company level controls	0.053	0.363	0.020	0.147	0.883	0.700	1.428
	Control index	0.231	0.541	0.056	0.426	0.671	0.737	1.357
	Managerial labour index	0.587	0.502	0.141	1.169	0.246	0.861	1.162
2013	(Constant)	21.247	12.967		1.638	0.106		
	Percentage shares held by blockholders	0.033	0.131	0.026	0.249	0.804	0.804	1.244
	Controlling shareholder	-1.469	3.701	-0.046	-0.397	0.693	0.660	1.515
	Percentage directors' shareholding	-0.135	0.163	-0.079	-0.828	0.410	0.965	1.036
	Quality audit score	-0.087	0.070	-0.127	-1.254	0.214	0.850	1.177
	Industry	10.688	2.992	0.352	3.573	0.001	0.898	1.113
	Company level controls	0.292	0.075	0.411	3.912	0.000	0.791	1.264
	Control index	-0.128	0.114	-0.120	-1.123	0.265	0.764	1.310
	Managerial labour index	-0.176	0.128	-0.143	-1.376	0.173	0.803	1.246

2014	(Constant)	8.984	17.287		0.520	0.605		
	Percentage shares held by blockholders	-0.238	0.165	-0.136	-1.440	0.154	0.848	1.179
	Controlling shareholder	-2.102	4.485	-0.046	-0.469	0.641	0.787	1.270
	Percentage directors' shareholding	-0.122	0.191	-0.056	-0.640	0.524	0.977	1.023
	Quality audit score	-0.180	0.087	-0.185	-2.075	0.041	0.956	1.045
	Industry	19.556	4.005	0.453	4.883	0.000	0.878	1.139
	Company level controls	0.400	0.098	0.403	4.062	0.000	0.768	1.302
	Control index	-0.206	0.159	-0.133	-1.297	0.199	0.719	1.391
	Managerial labour index	0.002	0.164	0.001	0.015	0.988	0.879	1.138

EV

Year	R	R Squared	Adjusted R Squared	Std Error of the Estimate	Change Statistics				
					R Squared Change	F Change	df1	df2	Sig. F Change
2012	.536	0.287	0.211	215.583044	0.287	3.773	8	75	0.001
2013	.466	0.217	0.133	238.286654	0.217	2.597	8	75	0.015
2014	.532	0.283	0.206	251.755779	0.283	3.695	8	75	0.001

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
2012	**(Constant)**	**-364.777**	**174.979**		**-2.085**	**0.041**		
	Percentage shares held by blockholders	**-1.518**	**2.101**	**-0.081**	**-0.722**	**0.472**	**0.765**	**1.307**
	Controlling shareholder	**56.719**	**59.957**	**0.112**	**0.946**	**0.347**	**0.681**	**1.469**
	Percentage directors' shareholding	**-3.441**	**2.670**	**-0.128**	**-1.289**	**0.201**	**0.970**	**1.031**
	Quality audit score	**2.983**	**1.150**	**0.273**	**2.594**	**0.011**	**0.857**	**1.167**
	Industry	**89.156**	**51.248**	**0.185**	**1.740**	**0.086**	**0.843**	**1.186**
	Company level controls	**2.155**	**1.271**	**0.198**	**1.696**	**0.094**	**0.700**	**1.428**
	Control index	**-0.266**	**1.896**	**-0.016**	**-0.141**	**0.889**	**0.737**	**1.357**
	Managerial labour index	**4.475**	**1.760**	**0.267**	**2.543**	**0.013**	**0.861**	**1.162**
2013	**(Constant)**	**-273.946**	**237.858**		**-1.152**	**0.253**		
	Percentage shares held by blockholders	**-3.030**	**2.399**	**-0.144**	**-1.263**	**0.210**	**0.804**	**1.244**
	Controlling shareholder	**43.130**	**67.885**	**0.080**	**0.635**	**0.527**	**0.660**	**1.515**
	Percentage directors' shareholding	**-3.553**	**2.986**	**-0.124**	**-1.190**	**0.238**	**0.965**	**1.036**
	Quality audit score	**1.907**	**1.276**	**0.166**	**1.495**	**0.139**	**0.850**	**1.177**
	Industry	**128.552**	**54.875**	**0.253**	**2.343**	**0.022**	**0.898**	**1.113**
	Company level controls	**2.702**	**1.368**	**0.227**	**1.975**	**0.052**	**0.791**	**1.264**
	Control index	**-0.609**	**2.086**	**-0.034**	**-0.292**	**0.771**	**0.764**	**1.310**
	Managerial labour index	**4.078**	**2.344**	**0.198**	**1.740**	**0.086**	**0.803**	**1.246**

2014	(Constant)	-497.242	253.148		-1.964	0.053		
	Percentage shares held by blockholders	-2.290	2.418	-0.101	-0.947	0.347	0.848	1.179
	Controlling shareholder	52.765	65.678	0.089	0.803	0.424	0.787	1.270
	Percentage directors' shareholding	-3.095	2.794	-0.110	-1.108	0.271	0.977	1.023
	Quality audit score	4.017	1.273	0.316	3.156	0.002	0.956	1.045
	Industry	164.287	58.651	0.292	2.801	0.006	0.878	1.139
	Company level controls	3.457	1.442	0.268	2.397	0.019	0.768	1.302
	Control index	-0.466	2.326	-0.023	-0.200	0.842	0.719	1.391
	Managerial labour index	4.682	2.407	0.203	1.945	0.055	0.879	1.138

Next Year's Enterprise value per share

Year	R	R Squared	Adjusted R Squared	Std Error of the Estimate	Change Statistics				
					R Squared Change	F Change	df1	df2	Sig. F Change
2012	.527	0.278	0.201	228.80500	0.278	3.610	8	75	0.001
2013	.472	0.223	0.140	262.05147	0.223	2.688	8	75	0.012
2014	.542	0.293	0.218	272.62907	0.293	3.890	8	75	0.001

Next Year's Enterprise value per share		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
2012	**(Constant)**	**-359.523**	**185.710**		**-1.936**	**0.057**		
	Percentage shares held by blockholders	**-1.732**	**2.230**	**-0.087**	**-0.777**	**0.440**	**0.765**	**1.307**
	Controlling shareholder	**37.354**	**63.634**	**0.070**	**0.587**	**0.559**	**0.681**	**1.469**
	Percentage directors' shareholding	**-3.458**	**2.834**	**-0.122**	**-1.220**	**0.226**	**0.970**	**1.031**
	Quality audit score	**2.899**	**1.221**	**0.252**	**2.375**	**0.020**	**0.857**	**1.167**
	Industry	**104.965**	**54.391**	**0.206**	**1.930**	**0.057**	**0.843**	**1.186**
	Company level controls	**2.173**	**1.349**	**0.189**	**1.611**	**0.111**	**0.700**	**1.428**
	Control index	**-0.595**	**2.012**	**-0.034**	**-0.296**	**0.768**	**0.737**	**1.357**
	Managerial labour index	**4.977**	**1.868**	**0.282**	**2.665**	**0.009**	**0.861**	**1.162**
2013	**(Constant)**	**-316.108**	**261.580**		**-1.208**	**0.231**		
	Percentage shares held by blockholders	**-3.738**	**2.639**	**-0.161**	**-1.417**	**0.161**	**0.804**	**1.244**
	Controlling shareholder	**19.465**	**74.655**	**0.033**	**0.261**	**0.795**	**0.660**	**1.515**
	Percentage directors' shareholding	**-3.605**	**3.283**	**-0.114**	**-1.098**	**0.276**	**0.965**	**1.036**
	Quality audit score	**2.108**	**1.403**	**0.166**	**1.503**	**0.137**	**0.850**	**1.177**
	Industry	**157.122**	**60.348**	**0.280**	**2.604**	**0.011**	**0.898**	**1.113**
	Company level controls	**2.789**	**1.505**	**0.212**	**1.853**	**0.068**	**0.791**	**1.264**
	Control index	**-0.443**	**2.294**	**-0.022**	**-0.193**	**0.848**	**0.764**	**1.310**
	Managerial labour index	**4.779**	**2.578**	**0.211**	**1.854**	**0.068**	**0.803**	**1.246**

2014	(Constant)	-499.910	274.137		-1.824	0.072		
	Percentage shares held by blockholders	-2.308	2.618	-0.093	-0.882	0.381	0.848	1.179
	Controlling shareholder	59.191	71.123	0.091	0.832	0.408	0.787	1.270
	Percentage directors' shareholding	-3.841	3.025	-0.125	-1.269	0.208	0.977	1.023
	Quality audit score	3.570	1.378	0.257	2.591	0.012	0.956	1.045
	Industry	218.450	63.514	0.356	3.439	0.001	0.878	1.139
	Company level controls	3.877	1.562	0.275	2.483	0.015	0.768	1.302
	Control index	-1.214	2.519	-0.055	-0.482	0.631	0.719	1.391
	Managerial labour index	5.173	2.606	0.206	1.985	0.051	0.879	1.138

Tobin's Q

Year	R	R Squared	Adjusted R Squared	Std Error of the Estimate	Change Statistics				
					R Squared Change	F Change	df1	df2	Sig. F Change
2012	.493	0.243	0.162	1.229780	0.243	3.008	8	75	0.006
2013	.541	0.293	0.217	1.203171	0.293	3.883	8	75	0.001
2014	.515	0.265	0.187	1.088443	0.265	3.386	8	75	0.002

Tobin's Q		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
2012	(Constant)	0.644	0.998		0.645	0.521		
	Percentage shares held by blockholders	0.019	0.012	0.178	1.546	0.126	0.765	1.307
	Controlling shareholder	0.144	0.342	0.051	0.421	0.675	0.681	1.469
	Percentage directors' shareholding	-0.010	0.015	-0.068	-0.665	0.508	0.970	1.031
	Quality audit score	-0.010	0.007	-0.167	-1.538	0.128	0.857	1.167
	Industry	0.748	0.292	0.280	2.560	0.012	0.843	1.186
	Company level controls	0.020	0.007	0.325	2.706	0.008	0.700	1.428
	Control index	-0.004	0.011	-0.045	-0.381	0.705	0.737	1.357
	Managerial labour index	-0.001	0.010	-0.011	-0.100	0.921	0.861	1.162
2013	(Constant)	1.098	1.201		0.914	0.363		
	Percentage shares held by blockholders	0.018	0.012	0.161	1.484	0.142	0.804	1.244
	Controlling shareholder	0.323	0.343	0.113	0.941	0.350	0.660	1.515
	Percentage directors' shareholding	-0.009	0.015	-0.056	-0.571	0.569	0.965	1.036
	Quality audit score	-0.014	0.006	-0.236	-2.244	0.028	0.850	1.177
	Industry	0.791	0.277	0.292	2.853	0.006	0.898	1.113
	Company level controls	0.022	0.007	0.344	3.148	0.002	0.791	1.264
	Control index	-0.010	0.011	-0.108	-0.970	0.335	0.764	1.310
	Managerial labour index	-0.001	0.012	-0.009	-0.087	0.931	0.803	1.246

2014	(Constant)	0.793	1.094		0.725	0.471		
	Percentage shares held by blockholders	0.003	0.010	0.031	0.289	0.774	0.848	1.179
	Controlling shareholder	0.046	0.284	0.018	0.163	0.871	0.787	1.270
	Percentage directors' shareholding	-0.007	0.012	-0.061	-0.612	0.542	0.977	1.023
	Quality audit score	-0.010	0.006	-0.175	-1.729	0.088	0.956	1.045
	Industry	0.820	0.254	0.342	3.235	0.002	0.878	1.139
	Company level controls	0.017	0.006	0.308	2.729	0.008	0.768	1.302
	Control index	-0.009	0.010	-0.100	-0.859	0.393	0.719	1.391
	Managerial labour index	0.006	0.010	0.062	0.591	0.557	0.879	1.138

Next year's Tobin's Q

Year	R	R Squared	Adjusted R Squared	Std Error of the Estimate	Change Statistics				
					R Squared Change	F Change	df1	df2	Sig. F Change
2012	.520	0.270	0.192	1.22226	0.270	3.472	8	75	0.002
2013	.519	0.270	0.192	1.08522	0.270	3.462	8	75	0.002
2014	.552	0.305	0.231	1.19996	0.305	4.114	8	75	0.000

Next year's Tobin's Q		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
2012	**(Constant)**	**0.554**	**0.992**		**0.558**	**0.579**		
	Percentage shares held by blockholders	**0.017**	**0.012**	**0.164**	**1.454**	**0.150**	**0.765**	**1.307**
	Controlling shareholder	**0.180**	**0.340**	**0.063**	**0.530**	**0.598**	**0.681**	**1.469**
	Percentage directors' shareholding	**-0.008**	**0.015**	**-0.053**	**-0.529**	**0.599**	**0.970**	**1.031**
	Quality audit score	**-0.015**	**0.007**	**-0.246**	**-2.313**	**0.023**	**0.857**	**1.167**
	Industry	**0.840**	**0.291**	**0.310**	**2.889**	**0.005**	**0.843**	**1.186**
	Company level controls	**0.017**	**0.007**	**0.279**	**2.371**	**0.020**	**0.700**	**1.428**
	Control index	**-0.002**	**0.011**	**-0.020**	**-0.172**	**0.864**	**0.737**	**1.357**
	Managerial labour index	**0.003**	**0.010**	**0.035**	**0.333**	**0.740**	**0.861**	**1.162**
2013	**(Constant)**	**1.126**	**1.083**		**1.039**	**0.302**		
	Percentage shares held by blockholders	**0.007**	**0.011**	**0.068**	**0.622**	**0.536**	**0.804**	**1.244**
	Controlling shareholder	**0.124**	**0.309**	**0.049**	**0.400**	**0.690**	**0.660**	**1.515**
	Percentage directors' shareholding	**-0.006**	**0.014**	**-0.045**	**-0.449**	**0.655**	**0.965**	**1.036**
	Quality audit score	**-0.010**	**0.006**	**-0.191**	**-1.787**	**0.078**	**0.850**	**1.177**
	Industry	**0.789**	**0.250**	**0.329**	**3.158**	**0.002**	**0.898**	**1.113**
	Company level controls	**0.018**	**0.006**	**0.322**	**2.901**	**0.005**	**0.791**	**1.264**
	Control index	**-0.007**	**0.009**	**-0.080**	**-0.710**	**0.480**	**0.764**	**1.310**
	Managerial labour index	**-0.002**	**0.011**	**-0.022**	**-0.203**	**0.840**	**0.803**	**1.246**

2014	(Constant)	0.281	1.207		0.233	0.817		
	Percentage shares held by blockholders	0.000	0.012	-0.001	-0.010	0.992	0.848	1.179
	Controlling shareholder	-0.064	0.313	-0.022	-0.204	0.839	0.787	1.270
	Percentage directors' shareholding	-0.003	0.013	-0.024	-0.250	0.804	0.977	1.023
	Quality audit score	-0.010	0.006	-0.168	-1.707	0.092	0.956	1.045
	Industry	1.192	0.280	0.438	4.263	0.000	0.878	1.139
	Company level controls	0.014	0.007	0.225	2.048	0.044	0.768	1.302
	Control index	-0.004	0.011	-0.040	-0.354	0.724	0.719	1.391
	Managerial labour index	0.010	0.011	0.087	0.850	0.398	0.879	1.138

Appendix 8 Leximancer content analysis terms

This study uses Leximancer, an automated content analysis program, to analyse the annual integrated reports of the companies over the period of the study in order to develop an ethical leadership disclosure score (ELDS). To initiate the analysis the integrated reports of the sample companies for 2012 was entered into Leximancer and the resulting analysis were reviewed and updated to exclude terms normally associated with annual financial statements. The resulting reduced list or 24 terms include terms linked to the various stakeholders as well as ethical considerations that are part of the non-financial disclosure and were used to determine ELDS.

Analysis term	2012	2013	2014
• **accountable**	479	408	326
• **assurance**	2151	3828	2511
• **audit**	5312	7066	5680
• **code**	914	1196	636
• **compliance**	2987	4216	2990
• **customer**	1904	2935	2215
• **dividends**	3135	3783	2013
• **employees**	6529	10461	7682
• **environmental**	2791	4266	2775
• **ethics**	2177	2102	1498
• **honest**	80	149	388
• **integrity**	955	1150	909
• **leadership**	1278	1805	1496
• **moral**	83	15	88
• **non-compliance**	615	563	469
• **operations**	8841	11712	8804
• **penalty**	37	184	34
• **quality**	1235	3124	1851
• **shareholders**	8178	9711	8159
• **stakeholders**	2584	3943	3177
• **succession**	930	1550	1098
• **suppliers**	1007	1750	1023
• **sustainable**	1462	3549	2523
• **values**	2097	4194	2642

Appendix 9 Lagrange Multiplier (LM) test

The results of the various variations of the LM tests are summarised in the following tables linked to the various dependent variables. Although various tests were used, the study focused on the results of the Breusch-Pagan test as the more popular test. High chi scores recorded for the different tests with significant levels ranging from 0.01, 0.05 and 0.1 as listed below indicate heteroskedasticity. As the random effects is significant for all the cross-sectional tests and not for the time series the study will focus on a one-way panel analysis

LM tests for RoA

Test name	Cross-section	Time series	Both
Breusch-Pagan	104.0848	1.304384	105.3892
significance	(0.0000)	(0.2534)	(0.0000)
Honda	10.20220	-1.142096	6.406459
significance	(0.0000)	(0.8733)	(0.0000)
King-Wu	10.20220	-1.142096	0.436366
significance	(0.0000)	(0.8733)	(0.3313)
Standardised Honda	10.80896	-0.900503	0.620641
significance	(0.0000)	(0.8161)	(0.2674)
Standardised King-Wu	10.80896	-0.900503	-1.850694
significance	(0.0000)	(0.8161)	(0.9679)
Gourieroux, *et al*			104.0848
significance			(0.0000)

LM tests for NYRoA

Test name	Cross-section	Time series	Both
Breusch-Pagan	48.03004	0.169543	48.19958
significance	(0.0000)	(0.6805)	(0.0000)
Honda	6.930371	0.411757	5.191668
significance	(0.0000)	(0.3403)	(0.0000)
King-Wu	6.930371	0.411757	1.469954
significance	(0.0000)	(0.3403)	(0.0708)
Standardised Honda	7.504331	0.959154	-0.746546
significance	(0.0000)	(0.1687)	(0.7723)
Standardised King-Wu	7.504331	0.959154	-0.606153
significance	(0.0000)	(0.1687)	(0.7278)
Gourieroux, *et al*	-		48.19958
significance	-	-	(0.0000)

LM tests for EV

Test name	Cross-section	Time series	Both
Breusch-Pagan	204.4130	1.429245	205.8423
significance	(0.0000)	(0.2319)	(0.0000)
Honda	14.29731	-1.195510	9.264370
significance	(0.0000)	(0.8841)	(0.0000)
King-Wu	14.29731	-1.195510	1.011745
significance	(0.0000)	(0.8841)	(0.1558)
Standardised Honda	14.94514	-0.964429	3.837078
significance	(0.0000)	(0.8326)	(0.0001)
Standardised King-Wu	14.94514	-0.964429	-1.157881
significance	(0.0000)	(0.8326)	(0.8765)
Gourieroux, *et al*			204.4130
significance			(0.0000)

LM tests for NYEV

Test name	Cross-section	Time series	Both
Breusch-Pagan	195.0660	1.450921	196.5169
significance	(0.0000)	(0.2284)	(0.0000)
Honda	13.96660	-1.204542	9.024139
significance	(0.0000)	(0.8858)	(0.0000)
King-Wu	13.96660	-1.204542	0.952093
significance	(0.0000)	(0.8858)	(0.1705)
Standardised Honda	14.61111	-0.975238	3.566710
significance	(0.0000)	(0.8353)	(0.0002)
Standardised King-Wu	14.61111	-0.975238	-1.229709
significance	(0.0000)	(0.8353)	(0.8906)
Gourieroux, *et al*	-	-	195.0660
significance	-	-	(0.0000)

LM tests for Q

Test name	Cross-section	Time series	Both
Breusch-Pagan	199.6994	1.231315	200.9307
significance	(0.0000)	(0.2672)	(0.0000)
Honda	14.13150	-1.109646	9.207844
significance	(0.0000)	(0.8664)	(0.0000)
King-Wu	14.13150	-1.109646	1.071160
significance	(0.0000)	(0.8664)	(0.1420)
Standardised Honda	14.77767	-0.861667	3.773461
significance	(0.0000)	(0.8056)	(0.0001)
Standardised King-Wu	14.77767	-0.861667	-1.086340
significance	(0.0000)	(0.8056)	(0.8613)
Gourieroux, *et al*			199.6994
significance			(0.0000)

LM tests for NYQ

Test name	Cross-section	Time series	Both
Breusch-Pagan	184.8329	1.043714	185.8766
significance	(0.0000)	(0.3070)	(0.0000)
Honda	13.59533	-1.021623	8.890951
significance	(0.0000)	(0.8465)	(0.0000)
King-Wu	13.59533	-1.021623	1.075895
significance	(0.0000)	(0.8465)	(0.1410)
Standardised Honda	14.23612	-0.756320	3.416814
significance	(0.0000)	(0.7753)	(0.0003)
Standardised King-Wu	14.23612	-0.756320	-1.080638
significance	(0.0000)	(0.7753)	(0.8601)
Gourieroux, *et al*	-	-	184.8329
significance	-	-	(0.0000)

Appendix 10 Prior South African Research on Corporate Governance

Author and year	Focus of the study	Key findings
Reinecke (1996)	Evaluated King I to establish whether the recommendations would lead to more effective corporate governance.	Developed a variable combined assurance model to provide stakeholders with variable levels of assurance on all aspects of organisational performance.
Malherbe and Segal (2001)	The South African component of the research project on "Corporate Governance in Developing Economies and Emerging Economies", initiated in 1999 by the OECD Development Centre.	A description of corporate governance in the rapidly developing environment of the 1990s up to the turn of the century.
Kakabadse and Korac-Kakabadse (2002)	Evaluated South African governance using King II against international best practices.	Recommended a balanced approach to prevent the civil disorder experienced by neighbouring countries with consideration of the European dual board system and its stakeholder focus.
Rossouw *et al.* (2002)	Overview of corporate governance in South Africa in which financial and ethical dimensions are considered.	Highlighted the highly turbulent and fluid context in which corporate governance developed in South Africa as well as the need for continuous revision.
Rossouw (2002)	The relationship between corporate governance and ethics in a developing country was considered in King II.	Business ethics is prominently dealt with in King II, which emphasises that corporate governance is always context-specific and that developing countries should not import models used by developed countries.
Mongalo (2003)	Historical discussion on company law and corporate governance as an emerging topic.	The development of corporate governance in South Africa follows world trends and considers local conditions.

Author and year	Focus of the study	Key findings
Millson and Ward (2005)	Used 27 experts to investigate the relative importance of and preferences for various governance attributes in an agency relationship with private equity.	Private equity has a pro-active agent-principal relationship with active shareholders, focusing on the strength and experience of the management team, and transparency. The authors consider governance principles important but caution against tacit acceptance.
Armstrong *et al.* (2005)	Global best practice report.	Discussion of corporate governance practices in South Africa as a pioneer in Africa.
Vaughn and Ryan (2006)	Considered the corporate governance initiatives in South Africa, given the country's leadership role in Africa and its notable corporate governance reform.	As the country rates among the best corporate governance performers in emerging markets, its ethical business focus should attract outside investment, encouraging other African countries to apply basic governance principles.
West (2006)	Used existing theory to analyse corporate governance in South Africa given the African value system.	Identified incompatibilities between the existing corporate governance environment and African values given the communal focus on decision making through consensus with an emphasis on duties over rights.
Abdo and Fisher (2007)	Considered a link between good corporate governance and direct financial benefit to shareholders using a corporate governance index based on 29 disclosure factor scores on a scale of 0 to 2, considering King II over a three-year period for 97 companies.	Corporate governance was positively correlated with share price returns and it was found that investors place a premium on South African companies with good governance.

Author and year	Focus of the study	Key findings
Esser and Dekker (2008)	Illustrated the effect of B-BBEE on corporate governance from the perspective of the directors' duties toward stakeholder protection.	The change in regulation (with triple bottom line reporting) and legislation such as the B-BBEE aimed to encourage societal transformation and enterprise sustainability, with the result that boards faced a more complex and challenging environment.
Mangena and Chamisa (2008)	Examined the link between corporate governance and listing suspension from the JSE using a matched pair design.	There was a positive association between suspension and non-institutional investors, but no association with institutional investors, or board size, role duality, directors' share ownership, auditor quality and return on assets.
Moloi (2008)	Content analysis of corporate governance disclosure by the Top 40 South African companies using King II and the Corporate Laws Amendment Act.	Most of the companies adhere to good corporate governance disclosure practices.
Botha (2009)	Investigated corporate governance principles in South Africa and the role and duties of directors.	Directors' duties are enhanced and legislated, adding standards of conduct to regulate accountability.
Ntim (2009)	Explored the relationship between internal corporate governance structures and the financial performance of firms.	The compliance-index model suggests a statistically significant positive association between quality corporate governance structures and firm performance.
Opperman (2009)	Investigated the relationship between corporate governance (using the same g-score as Abdo and Fisher on 20 companies) and cost of capital.	Found no evidence of a relationship between corporate governance and the cost of capital but found that corporate governance should be advocated from a values perspective.
Serretta, Bendixen and Sutherland (2009)	Used a Delphi technique to identify corporate dilemmas facing boards.	Identified six core dilemmas that require the management of contrasting views.

Author and year	Focus of the study	Key findings
Barac and Moloi (2010)	Assessed the 2006 reports of the Top 40 companies for compliance in respect of corporate governance information.	In general, good disclosure practices were applied except for non-disclosure on the selection of auditors and whistle-blowing.
Carciumaru (2010)	Assessed the potential impacts of corporate governance codes and legislation on directors' and officers' liability insurance using the Delphi technique and interviews.	Director liability and claims against directors have been increasing because of doctrinal and complexity issues.
Moyo (2010)	Considered the South African governance and legal framework that regulates directors' powers and remuneration.	Highlighted restraints on directors' powers and the move to curb excessive directors' remuneration.
Andreasson (2011b)	Investigated South African corporate governance reform considering the Anglo-American links.	Contrasted the shareholder and stakeholder models and the emergence of an African model.
Ntim, Opong, Danbolt and Thomas (2012)	Investigated voluntary compliance with and the disclosure of good governance practices in South African companies.	Found a substantial variance in compliance among companies with an improvement over time.
Mans-Kemp (2014)	Investigated the relationship between corporate governance and the financial performance of selected JSE industries for the period 2002-2010.	A positive association was noted between earnings per share and corporate governance scores but there was a negative association between total shareholder return and corporate governance scores while positive risk-adjusted abnormal returns were reported for the portfolio consisting of the firms with the highest corporate governance scores over the entire study period.

Author and year	Focus of the study	Key findings
Arries (2014)	Analysed and compared the specific governance elements in SOEs in two government departments using twenty linked state-owned entities for the period 2012/2013.	The governance elements of independence, ethnic diversity, average age and board meeting attendance appear to be comparable in the two departments. The CEO positions are still male-dominated, with a strong correlation between CEO remuneration and chairperson fee and total assets.
Ashwin (2015)	Explored the relationship between corporate governance and company performance in South Africa using panel data for thirty companies to construct a governance index using 10 variables.	Found a positive relationship between the developed index and Tobin's Q and no relationship with RoA.
Mans-Kemp and Viviers (2015b)	Used the outcome dividend model to determine whether companies with good governance pay higher dividends.	Over time the corporate governance score and dividend pay-outs improved with board composition and board committees being most highly correlated.
Goodchild (2016)	The principles of good governance as prescribed by the King reports were used as the main source in the empirical study, the aim of which was to analyse the extent to which corporate governance guidelines are implemented by a selected sample of congregations.	Interviewees raised lack of knowledge of the King reports and lack of resources as key limitations in the implementation of good governance practices.
Mans-Kemp *et al.* (2016)	Investigated the corporate governance practices under King II of 230 companies on the JSE between 2002 and 2010.	Corporate governance disclosure increased over time. However, the practice of corporate governance principles needs to be improved – indicating a need for training on corporate governance principles.

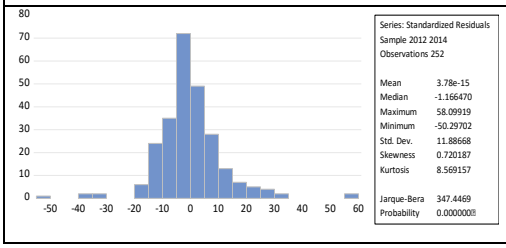
Author and year	Focus of the study	Key findings
Tshipa (2017)	Understanding the relationship between internal corporate governance and firm performance for three different economic periods.	Corporate governance structures differed in non-crises and crises with different performance levels across industries and periods.

Appendix 11 Histogram of the residuals

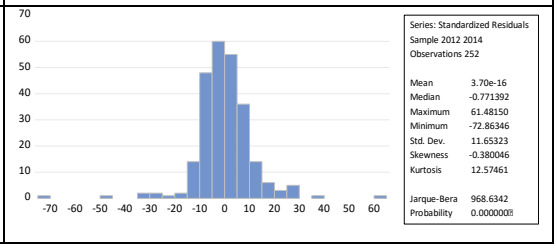
Pooled OLS analysis

None of the residual graphs for the Pooled OLS estimation have normal distributions

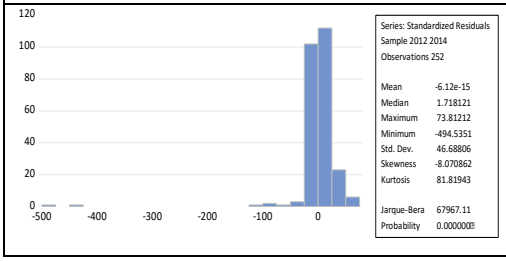
RoA



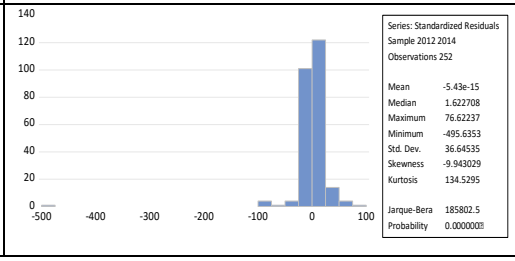
NYRoA



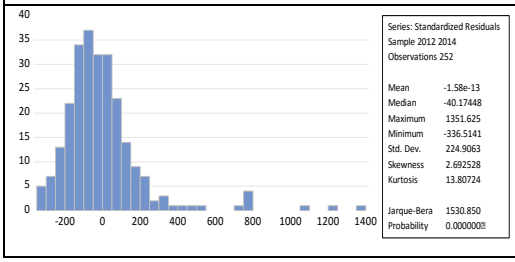
RoE



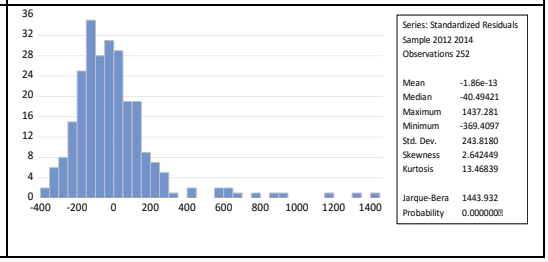
NYRoE



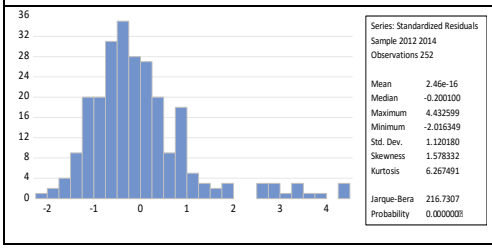
EV



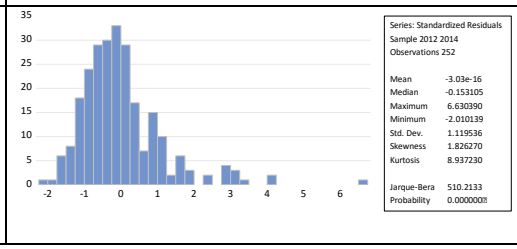
NYEV



Q



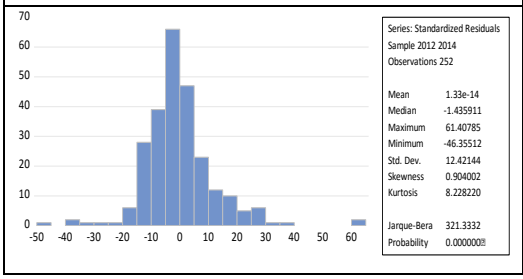
NYQ



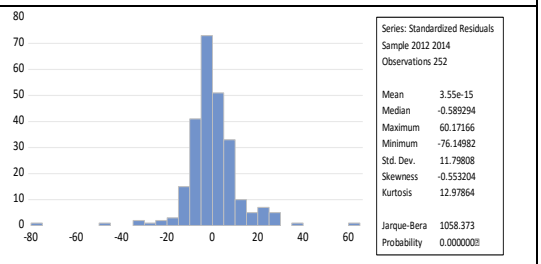
Fixed Effects (Test 3)

None of the residual graphs for Test 3 have normal distributions, however, the test used FGLS with weights for the cross-sections and the White period as the coefficient covariance method to enable EViews to compute standard errors that are robust for serial correlation.

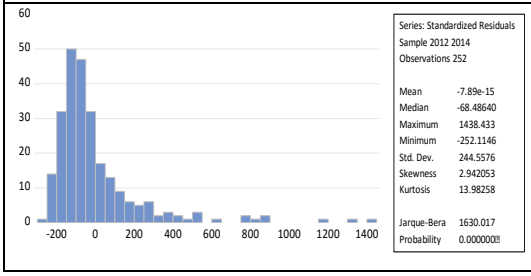
RoA



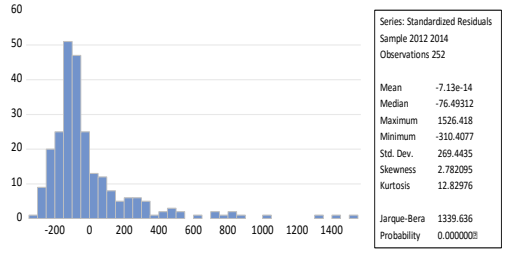
NYRoA



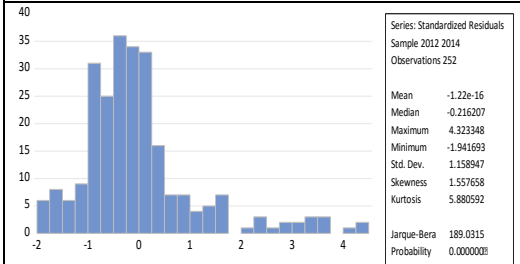
EV



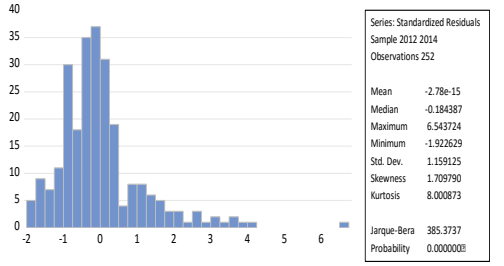
NYEV



Q



NYQ



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